

Changing places at CHATHAM HOUSE: Philip Ingram talks to David Watt who is to be replaced as director at the end of this month by James Eberle (page 10)

Two institutions in trouble: David Jobbins visits WEST MIDLANDS college of higher education which the NAB believes should be closed, and Peter Scott reports from HULL university where morale is slowly reviving two years after the UGC cuts (page 11)

Navigating for Newton... W. E. A. Makin discusses the intellectual contribution of the seventeenth century natural philosopher and priest GASSENDI who it has been claimed was one of the forerunners of Newton (page 12)

MAURICE EVANS reviews A New Mimesis by A. D. Nuttall which discusses the representation of reality in Shakespeare and in the process disputes many of the orthodoxies of modern literary criticism (page 14)



R. W. Davies discusses the final years of BUKHARIN from his defeat by Stalin in 1929 over collectivization to his execution in 1938, which are the subject of a new book by Roy Medvedev (page 15)

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Student bookshops



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The dog that did not bark

As Sherlock Holmes pointed out it is the dog that does not bark which is sometimes more significant. A few weeks ago it was announced that the Department of Education and Science had commissioned Sheffield City Polytechnic and the North East London Polytechnic to carry out joint research into the institutional effects of the National Advisory Body's present planning exercise. The sum involved, £30,000, is much too little. But then no Government wants to pay too much for the scrutiny of its own policies, particularly if they may have malignant consequences. The case of the Metropolitan Police and the recent Policy Studies Institute report is bound to come to mind.

However the Sheffield/NELP research is a start. The NAB exercise is not to go entirely unnoted. When its success or failure comes to be decided and its effectiveness assessed there will be something more than rhetoric and/or abuse on which to base a final judgment. Sadly the same cannot be said of the much more serious contraction of the universities which followed the University Grants Committee's discriminatory distribution of the much reduced recurrent grant in 1981-82 which is where the dog that did not bark comes in. Unlike the present NAB exercise the earlier UGC operation has gone completely unresearched.

There are two possible explanations for this extraordinary neglect. The first is that whatever disqualification the Government may feel about the NAB research must have been much stronger in the case of the university cuts. Their effects were certain to be malignant. The DES already knew that; it had the UGC's own strongly worded memorandum on file (when it had not been mislaid) which warned of the grave damage that the proposed expenditure cuts would cause to universities. To fund research that would do all the "ifs" and cross all the "ts" must have appeared an almost masochistic superfluity.

Second, there were clearly constitutional problems. In one sense the UGC is merely a branch of the DES. It is staffed by civil servants and has no independent capacity to commission research. In another sense it is an independent agency which until the very recent past preferred to keep the DES in the dark on many important questions. So for the DES to have gone ahead with commissioned research about the effects of the university cuts would have seemed a breach of constitutional etiquette. So the UGC couldn't do it and the DES wouldn't do it.

But it should have been done. Far-reaching decisions with the most radical consequences were taken without it.

The Scottish dimension

Another dog that has not barked recently, but will certainly bark much more loudly in future, is Scottish devolution. There is not a whisper of it in Sir Peter Swinerton-Dyer's 28 questions to the universities. The great debates to be played out within a British mould. To the extent that the universities in future have to defer more to a national authority it is to be the University Grants Committee and/or the Department of Education and Science both firmly located in London. The Scottish, still less the Welsh, dimension is utterly ignored.

Of course it can be argued that this does no more than to reflect the actual constitutional position: the Scottish universities are funded through the UGC and the DES not the Scottish Education Department. It can also be argued that when the devolution of power to a Scottish assembly in Edinburgh was just a live political issue, the universities argued successfully that they should retain their links with the UGC and the DES. So the devolution may appear to be that the future of the Scottish universities was a specialist subplot even when devolution was all

out being subject to any independent academic monitoring, whatever detailed bureaucratic monitoring the UGC may itself have carried out. Nor is it all the past. For further cuts in expenditure on universities, although less serious than those in 1981, have already been announced. As we move into the period of demographic decline with its contested consequences for student demand these cuts may be intensified.

Moreover the new chairman of the UGC, Sir Peter Swinerton-Dyer, is encouraging universities to take part in a "great debate" about their future. He has invited them to answer 28 questions, some of which touch on the fundamental operation of the system. Yet because of the absence of proper information about the effects of the first round of UGC cuts in 1981-83, this new debate is having to take place on the most insecure foundations. It is difficult enough to know where we are, or should be, going; that difficulty is compounded if in many crucial respects we do not know where we are to start with.

So there is a danger that the grand old principle of "informed prejudice" will continue to hold sway. In conversations across lunch tables, at receptions, and in committee rooms (nearly all in London) a view will emerge of which universities have coped sensibly with the earlier contraction and which appear to have made a mess of it. This view will never of course become sufficiently formal or concrete to be challenged. Nevertheless it will steer the future fates of individual universities as decisively as similar views at the turn of the decade steered the contraction that is now almost complete.

As with past examples of "informed prejudice" at work the view will be 80 per cent on target, 15 per cent off target but still on the board and 5 per cent terribly and unfairly wrong. It is even possible to discern this view in embryo. Of the hardest hit universities in 1981 Aston and Salford are seen as having done rather well - the former no doubt because the furious rows in the university are seen as evidence that tough and painful decisions are being taken, the latter because no one really wants to tangle with its vice chancellor John Ashworth (although they may feel less inhibited when the now not-too-distant time comes when he becomes over-exposed in the media and goes the way of the Rhodes Boysons).

Bradford is also probably in the clear. There the contraction seems to have managed fairly crisply. But Strirling, Keele - now we are getting into harder cases. The heads begin to clear. The contraction seems to have managed fairly crisply. But Strirling, Keele - now we are getting into

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Laurie Taylor



What do you think about Doctor Wernitz, then?
What's that?
Doctor Wernitz. You haven't heard?
No.

Well, I must admit that I was a little shocked. I mean, after all those years.
What are you talking about?
Apparently, he's left his wife, Maureen?

Oh yes, No doubt about it. And she's up with a woman called Suzie.
Well, it's very distressing. But I suppose it's their business, really. As long as it doesn't affect the department in any way.

Well, it wouldn't be so bad if he was the only one. But then there's Doctor Rayburn.
Doctor Rayburn? What's she been up to?

Left Roger.
And what now? Living by herself?

Oh no. Cohabiting with some fellow called Jules.

That's it. J-U-L-E-S.
Well, I wish them well. Whatever the rights and wrongs of the situation, it's their life and they have to get on with it.

Not that other departments are much better. Certainly not medieval theology.
Medieval theology?

Oh yes. Professor Painthrust. Haven't you heard?
What about her? Not that I'm all that interested in purely personal...

Apparently Nigel's left her. Just disappeared.
Well, I don't suppose our talking about it will...

It seems to have left her entirely by herself.
I suppose so.

No doubt about. Completely isolated.

Look, vice chancellor, I know this may sound just a shade plain to you, but quite honestly, I'm not quite as interested as you seem to be in the various affairs and domestic upheavals of my colleagues. It seems to me that well, people are entitled to a certain amount of privacy when it comes to personal matters, and if you'll excuse me for saying so, your sort of curiosity is, well, almost tantamount to a minor interference with their civil liberties. I mean, how on earth have you come by all this detailed information? Have you been spying on these unfortunate people?

Not at all, Professor Lapping. What then?
Merely reading my first batch of Christmas cards.

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Joseph queries universities' value for money

by Ngalo Crequer

Sir Keith Joseph, the Secretary of State for Education has asked vice chancellors to consider a Rayner-type inquiry into the efficiency of the universities.

He raised the question at last week's private talks with representatives from the Committee of Vice Chancellors and Principals which discussed the issue at its meeting last Friday. Initial talks have been held between Sir Keith and Sir Peter Swinerton-Dyer, chairman of the University Grants Committee.

The impetus to improve the efficiency of the universities is understood to have originated in the Prime Minister's office.

Vice chancellors have made it clear to the UGC that their response to the Department of Education and Science will depend on what kind of inquiry would take place. They would not object to an inquiry into purchasing of goods and equipment, supporting services, and general administration.

The review of the research council support services set up on Rayner lines last October, which reported in September, would be an acceptable model. That inquiry reported that savings of more than £3m a year, and more than 200 jobs could be made in stores, purchasing, estate management, workshops and library services. It also suggested selling off surplus property.

But vice chancellors would not agree to a review that sought to assess academic staff performance or the quality of research. They would argue, and would be supported by the UGC, that the UGC does that job anyway, and it would be improper for an outside agency to interfere. The UGC keeps a close watch on staff - student intake and on performance and viability of departments, as evidenced by its recent decisions on pharmacy at Heriot-Watt, and in oceanography.

The UGC is also likely to tell the DES that the cuts of the last few years have meant savings in administration and that more savings would be difficult to find. Conversely, the universities would have nothing to fear from such an inquiry.

But being canvassed is the idea of a specialist educational consultancy which would review services and management throughout the system, aided by UGC officials. Draft terms of reference are being considered.

The universities already undertake their own reviews. Some £400m a year is spent on equipment and the Committee on University Purchasing has made savings worth millions of pounds.

Sir Keith also asked the vice chancellors for a full report on tenure, the subject of a clash between ministers and two University of London colleges.

Royal Holloway and Bedford Colleges are expected to drop a clause permitting dismissal on grounds of redundancy from the draft of a private Bill needed for their merger to go ahead. The clause was put in a joint working party of the two colleges because the Government seemed likely to insist on redundancy as a reason for dismissal.

But a joint committee preparing the Bill for consideration by the college councils in March has recommended that it should be deleted. Professor Dorothy Wadsworth, principal of Bedford and chairman of the committee, reported a very strong reaction against the proposal from staff who felt it would be bad not only for the sake of existing staff but for the future of the profession.

A large majority of the governing bodies of non-medical schools had also shown unwillingness to adopt anything but good cause or ill health as reasons for dismissal.

The committees agreed that although their decision meant the Bill might be dropped in Parliament, the new institution would be at a disadvantage not only in recruiting staff but if further cuts had to be made by London University in the 1990s.

● The University of Leeds has withdrawn its original offer to take on 45 extra students in both 1984/85 and 1985/86. A spokesman said that because of the Government's revision of the provisionally announced grant to universities, Leeds could "no longer leave its offer on the table."

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Relief and hardship in science vote

by Jon Turney
Science Correspondent

Relief for the Science and Engineering Research Council's problems in meeting international subscriptions and hard times for the Natural Environment and Food Research Councils were signalled by the science budget allocations for 1984-85, announced last week.

Sir Keith Joseph, Secretary of State for Education and Science told the House of Commons the division of the £549m science vote for next year would include: £277.8m for the Science and Engineering Research Council; £117.2m for the Medical Research Council; £46.5m for the Agriculture and Food Research Council; and £22m for the Social Science Research Council.

As expected, the Fellowship of Engineering receives £150,000 grant-in-aid for the first time, and the rest of the money goes to the Royal Society (£5.3m) and the Natural History Museum (£14.15m).

The £6m added to the total budget for increased costs of international subscriptions all goes to the SERC. However, this will not be the end of the debate about Britain's contribution to the European Nuclear Research Centre (CERN) in Geneva, the main source of subscription pressure this year. The SERC and the Advisory Board for the Research Councils will shortly announce a joint inquiry into particle physics, to be completed in the first half of 1984. This will include a further review of the case for continuing Britain's membership of CERN.

For the AFRC and NERC, the allocations confirm the first reduction of level funding, as first proposed by the ABRC last year. The reduction is masked in the case of NERC by an increase in earmarked money for the British Antarctic Survey. These two councils divide the £300,000 added to the budget for restructuring between them, but still suffer overall reductions in cash for existing programmes. The shares given to the other two councils,

also in line with ABRC recommendations, are at the same level as last year.

The pattern will begin to shift again next year with movement of money back to councils pushing through restructuring. This has now been approved by the ABRC in spite of the failure to secure any appreciable increase in the overall budget for this year. The SERC and MRC will both forfeit half a per cent of their allocations in 1985-86 and one and a half per cent in 1986-87 to help smooth over shifts of priorities and institute closures in the AFRC and NERC. This loss, which will amount to £6m in the second year, may mean cutbacks in the two contributing councils. The MRC is already looking at adjustments in its grants to universities to help meet the expected levy.

The only hope for avoiding loss of funds for these two councils now is a more persuasive argument from the ABRC for additional restructuring money to be added to the science vote next year.



As Christmas celebrations around this week, students of Saint David's University College Lampeter, University of Wales, are marking the Swedish winter feast of Santa Lucia. The festival sees the crowning of the "Queen of Light" this year first year student Sarah Thomas from the university's Swedish unit - who carries a wreath of leaves and lighted candles on her head.

Inquiry call over merger

by Olga Wojtas
Scottish Correspondent

The battle lines are being drawn over a potential inquiry into a higher education merger in Aberdeen.

The Secretary of State for Scotland has had his first talks with the principals of Aberdeen University, Robert Gordon's Institute of Technology and Aberdeen College of Education. The university court called for an inquiry into a merger between the three institutions 10 months ago.

Professor George McNeil, principal of Aberdeen University, said following his confidential meeting with the Scottish Secretary, Mr George Younger, and the most senior officials of the Scottish Education Department, that the odds of an inquiry being established were "six to four on."

There had been allegations that the university was trying to strengthen its own position by merging with the two colleges, but Professor McNeil said there had been indications from the University Grants Committee that the university would be more favoured in coming years.

If there was no merger, the university would not be the loser; higher education in the north east of Scotland would be, he said. But the two college principals, who this week met the Mr Younger and second rank officials, have urged a national rather than local inquiry.

The institutional responses from the colleges, which have never been officially approached by the university, have been guarded. They say they do not see the need for an inquiry.

But Dr Peter Clarke, principal of RGIT, told Mr Younger that since public disquiet had been growing since February, the issues involved had to be discussed.

"I might prefer a local inquiry because of the prominence it would give RGIT," said Dr Clarke. "But this needs more than a discussion of nuts and bolts, and since rightly or wrongly an Aberdeen decision would be seen as a precedent, a local inquiry would be viewed under with views from higher education interests, the length and breadth of the country."

Unions plan revolt on CNAA quality rankings

by Karen Gold

A transitory revolt of academic members of boards and panels of the Council for National Academic Awards is expected following the council's decision to continue providing quality rankings to the National Advisory Body.

Both the Association of University Teachers and the National Association of Teachers in Further and Higher Education have advised their members not to participate in any CNAA quality ranking. The two unions are to discuss further action on the CNAA decision next year.

A national conference of academic boards in polytechnic and colleges to discuss resistance to quality rankings, which the CNAA provided for NAB, is being set up to discuss the decision. The two unions are to discuss further action on the CNAA decision next year.

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establish a working party on how the quality rankings could be provided. Natfhe had received large numbers of letters supporting its stand against participation in rankings, and the CNAA would find it very difficult to carry through the policy next year, he said.

"As an association we are going to advise our members very, very strongly that they shouldn't take part. It is nobody's interest that it should go ahead, whether or not it is the form town and country planning took, because it would simply break down completely the relationship between institutions and the CNAA," he said.

Apart from exploring different ways of achieving rankings - including additional visits, increasing data held by CNAA and setting up special ranking panels to be separate from validating subject boards - the council also agreed an internal reorganisation which would centralise authority with a new committee for academic and institutional policy and reduce the

power and potential inconsistencies of the boards.

But it would face resistance throughout institutions, according to Preston Polytechnic director, Mr Eric Robinson. "The council does not seem to understand that it depends for its existence on the cooperation of the colleges and polytechnics," he said. "If they think they can do this unilaterally they may get a shock. I have never known the people in polytechnics so united on anything as their feeling that the CNAA cannot be both rankings and validation."

Sir Keith Joseph, Secretary of State for Education and Science, this week announced his unreserved approval of the National Advisory Body's 1984/85 planning exercise, thereby increasing student places but closing two colleges and at least 20 courses.

Despite fierce lobbying in recent days, this means that intake to all advanced colleges at Nottingham, Colgate, Kent, and all except teacher

training at West Midlands College, Walsall, will end this year, almost certainly meaning the colleges will close.

At least two mergers will take place: Hertfordshire College of Higher Education with Hatfield Polytechnic, and Avery Hill College with Thames Polytechnic. Major courses to go include two in town and country planning, at Liverpool and Trent Polytechnic and two at Bristol Polytechnic (environmental health and BSc technology with business studies).

Sir Keith's letter points out that the exercise planning numbers, courses and costs per student for 1984/85 has resulted in more student places - 2,000 up to 265,500 - lower unit costs, and a shift away from arts to science and business subjects, and from London and the Home Counties to other regions. The advanced further education pool was increased to £580.5m compared with £560.6m in 1983/4.

Leader, back page

Letters to the editor

Implications of the Police Bill for research

Sir, - Although much has been written on the threat to research caused by cutbacks in funding, little attention appears to have been paid to a possible threat of a different kind and coming from a different quarter - namely the provisions of the Police and Criminal Evidence Bill currently in its Commons Committee stage. Parts of this Bill, if passed in its present form, would give the police new powers to enter and search premises for evidence of certain kinds of criminal offence. It would not be necessary for the owners or occupiers of those premises them-

selves to be suspected of any offence. It would be sufficient for the police to have "reasonable grounds for believing" that there is material on the premises likely to be of substantial value to the investigation of an offence. If this is the case then, under certain conditions, the police may obtain a search warrant or a disclosure order.

While these new powers may seem far removed from the daily lives of social researchers, the Bill, as presently drafted, could well give the police the right to search, examine and seize

research records and research data. Under these circumstances the possibility of police access to research records would mean that for certain kinds of research, at least, it would no longer be possible to give any guarantee of confidentiality to respondents and be sure that that confidentiality could be maintained. Yet there are a growing number of areas of research where confidentiality is a necessary condition for ensuring that the data collected are accurate, or even for carrying out the research at all.

To date the research community has

given little attention to the possible implications of the Police Bill. As the Bill is now in committee it would seem to be the time for research organizations to clarify the nature of the implications of the Police Bill and take the appropriate steps to protect the activities of current and future researchers.

Yours faithfully,
DR DOUGLAS SMITH
Howard Road,
Clarendon Park,
Leicester.

Caribbean studies

Sir, - The Centre for Caribbean Studies, being developed by Goldsmiths' College (THES, November 25) should receive every support and encouragement from universities and schools. It is particularly welcome now that opportunities are beginning to open up for pupils to include Caribbean, African and Asian literature in school syllabuses. Happily, while Mr Winston James is right to deplore the "appalling and truly scandalous neglect" of studies in Caribbean culture in England, the situation is more fertile than your report suggests. A number of English universities over the past decade have developed interests in the field.

To speak only for the University of Kent, Caribbean writing has been a popular element in the English and French literature degree courses since the late 1960s and there have been staff exchanges with the University of the West Indies. From 1976 the university has offered degrees in African and Caribbean Studies with both English and French literary emphasis; the degrees also cover historical work. A purely "academic" approach, however, can appear less than helpful to the social needs of the community, and a particularly important aspect of the work has been the links with creative writing, the founding conferences of the Caribbean Artists Movement, lectures and readings by West Indian writers, and the flourishing African and Caribbean Student Organisation whose activities have enlivened both formal academic work and the life of the student body as a whole.

DAVID BIRMINGHAM (Professor of History)
LYN INNES (Lecturer in English)
LOUIS JAMES (Professor of English)
CLIVE WAKE (Professor of Modern French and African literature)
MARK KINKADEE-WEEKES (Professor of English)
University of Kent, Canterbury.

Sir, - I found the editorial article "Race on the Campus" (THES, December 2) of particular interest. The statement that black Britons are under-represented, both as students and teachers within our universities and polytechnics, is disturbing and raises once more a whole range of questions related to facilities, resources and opportunities. Happily I am able to report that within this institution (where over 70 per cent of the work is advanced further education) 80 per cent of the students are from ethnic minorities, the considerable majority of whom are resident within the inner London area. Some 27 per cent of the AFE students are females and approximately 20 per cent of teaching staff are non-white, nearly all of whom are Principal or Senior Lecturers.

If other HE institutions are to meet the challenge, indeed they should, they must examine carefully their recruitment policies for both students and staff.

LYNDON H. JONES
South West London College.

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If other HE institutions are to meet the challenge, indeed they should, they must examine carefully their recruitment policies for both students and staff.

LYNDON H. JONES
South West London College.

Yours sincerely,
JANE NICHOLLS,
Research officer,
Federation of University Staff Associations,
Melbourne, Australia.

"Black and Tan" - name subsequently used for the Special Emergency Force - in April 1920 (page 94).

3. Mr Boyce draws attention to a suggestion made by Jalland and Stubbs in *The English Historical Review* (XCVI, 1981), that the events in "August 1914" were a "plausible idea, but it does not contradict what I wrote. My point was that the Black and Tan was a whole discussion makes clear that, as Jalland and Stubbs themselves put it, the outbreak of war diverted attention from the Irish Question. The problem of Ireland, though, although not resolved, ceased to be central for British politicians, as it had been before the outbreak of war in August.

Yours sincerely,
DR S. LAWLER
38 Orlingdon Road,
Newham, Cambridge.

Grants-loan system may go on trial

by Paul Flather

Changes in the control of postgraduate awards to business studies students could lead to the first authentic trial of a mixed grants-loan system next year. Agreement has just been reached to transfer control over some £450,000 worth of mandatory award money from the Department of Education and Science to the Social Science Research Council. It covers students going to the London and Manchester business schools.

The council is now keen to pick up proposals from the business schools to introduce greater flexibility into the awards system. In particular to allow "part awards" with students left to top up the deficit from loans and savings.

The idea was first broached by the

business schools a few years ago to allow more awards to more students who were often in their 20s, highly motivated, perhaps with savings and with sufficient credit status to secure adequate loans.

Professor Peter Moore, director designate of the LBS, said the idea arose because the number of awards were falling at the very time the schools were anxious to recruit more students.

"We don't want just a black and white system," he said. "We want to be more flexible, more like a halfway house. Our students are usually highly motivated and we think the state does not necessarily have a duty to pay all their costs."

Details of just how the assets and credit status of the students would be

assessed and how much state funding they would be given, are still to be discussed.

Maintenance awards for Master of Business Administration students taking two-year taught vocational courses are paid currently at the same rate as undergraduate awards - up to £1,975 in London and £1,660 elsewhere.

All parties are now hoping for speedy progress. Sir Douglas Hague, the council chairman, is known to be doubly keen to secure value for money in postgraduate support and to extend support for business education. Sir Keith Joseph, Secretary of State for Education, also shares these views.

But the National Union of Students, which has consistently opposed the idea of loans, expressed concern. Ms

Sarah Veale, NUS vice-president for welfare, said: "This could be an initial test for a wider loans system. We have never supported giving less money to more students. These may be special students but it could be applied to other groups. We will be watching this closely."

The move fits current DES aims to pass more control over awards to institutions. The Royal College of Art now controls its own similar postgraduate awards, and other management institutions could follow.

The LBS currently offers 110 places each year for its MBA courses, with some 50 awards made. Its students tend to have little difficulty finding jobs. Last year 44 per cent went into finance, 27 per cent into marketing and 13 per cent into consultancy.

Part-time degrees to expand

by Felicity Jones

The widespread extension of part-time postgraduate degrees on a modular, credit transfer basis has been proposed by the Department of Education and Science to meet the updating needs of the professions.

The department's proposals are outlined in a note to the National Advisory Body's continuing education group. A number of institutions, probably polytechnics to begin with, would collaborate to design a range of modules. Most of these would be available as part-time study for graduate engineers and scientists who had already embarked upon their career.

The mobility of professionals around the country would mean that the principle of credit transfer would have to be accepted in order that full credit should be given for modules completed elsewhere.

The modules in turn would require recognition by a common validating body, such as the Council for National Academic Awards, so that a masters degree would be automatically awarded once an agreed number of modules had been passed.

The department believes that such a scheme could only be carried out in the public sector and would involve eight to ten polytechnics initially to cover as much of the country as possible.

A course team in the Open University style, including representatives from those institutions and the relevant professional body, would be set up to devise the main curriculum structure for each module.

In electrical/electronic engineering, for example, there might be a programme of 15 modules with the intention that six to eight of those able combination would be recognized by the CNAAs as meeting the requirements of a masters degree.

There would be no time limit put upon the student for completing the modules and the option of being assessed or not could add further to the flexibility of the degree.

A sub-group to be convened by Mr Peter Toyn of North-East London Polytechnic, on credit transfer and credit accumulation will now investigate the feasibility of the scheme proposed in the paper. At last week's meeting it was pointed out that such degrees already exist in the management and business field.

Dr Edwin Kerr, the CNAAs' chief officer and chairman of the NAB working group, said these degrees would be looked at to see how well they worked. "The whole idea will be fully researched and is being treated as a distinct possibility," he said.

The full details of such scheme will be ready to report to the board of the NAB by the summer, when the continuing education group completes its business.

Proposals pending

Inventors in industry or universities will find it easier to protect their ideas if proposals in a new report from the Cabinet Office are approved.

Dr Robin Nicholson, author of the report and Cabinet Office chief scientific advisor, proposes a new registered invention scheme giving short-term security of intellectual property rights without the necessity to apply at once for a full patent.

He argues that this should be part of a forthcoming Intellectual Property and Innovation Bill, designed to underpin a major policy statement on innovation. The report carries the Prime Minister's endorsement, and is intended to provoke discussion of the best way of ensuring the UK exploits its best ideas to the full.

The report points out that while the UK has limited raw materials and a small home market, our education system and reputation for inventiveness are good. "The ability to claim ownership of ideas is a vital step in securing a profit form them," it says. Intellectual Property Rights and Innovation, Cmnd 9117. HMSO, £4.65.

Old evidence

Sir, - It is not absolutely clear, but the statistical information on which Peter Collinson's article (THES, November 18) is based appears to be getting on for 20 years old. It is clear that it was elicited from persons who were then over 21. And what information in those days, 88 per cent of Oxford residents had either been into Christ Church (which contains a cathedral) or had walked through the Meadow.

The majority of residents of York and Reading had seen the new university buildings (without necessarily having been inside them) and pronounced them attractive to look at. (But how many residents can have failed to see Leicester's Walt Disney castle-style prison, and what does that prove?) Does their reply show that they may not regard the demolition which made their erection possible a desecration of north Oxford. And why is the widespread prejudice against new architecture mitigating in connection with attitudes to new university buildings?

Collinson reports that most parents then, schoolchildren aged under 11 (and not over because "we judged that the 11-plus examination which was then in operation would have effectively excluded the possibility of a university place" for the majority of children above 11), when asked if they would like their children to go to university, and if so, to the local university, most said yes. So? So what has happened since - after all, the 11-plus still operates in Kent, and elsewhere, and looks as if it may never go. The fact is that most 18-year-olds don't go to university, and as Collinson himself reports (but does not explain) of those who do, an increasing number choose not to go to their local.

I would like to think that universities are not faced with "widespread resentment", especially among those born since Collinson appears to have done his research, but that's what I find. Undoubtedly, the important point is that Collinson wants to improve relations between town and gown. But we won't help to do so by misrepresenting attitudes outside the universities (or in).

Yours sincerely,
COLIN RADFORD
Keynes College,
University of Kent.

Sir, - There are a number of ways in which Mr Boyce's review of my book *British and Irish, 1914-23* (THES, November 11) is misleading. Might I correct them for your readers?

Mr Boyce criticizes me for making "exaggerated claims" about my book; but he seriously misrepresents claims I make. From his review, one would gather that I dismissed entirely the work of other historians (generally, it seems to suggest, without reading it), and that I imagined I was the only writer on the period to have used documentary material. In fact, what I claim is that my book is the first to present an account based entirely on contemporary documents, of the events and interventions at the highest

level on both the English and Irish side for the whole period from 1914-23.

This claim is, so far as I know, justified: certainly Mr Boyce gives no evidence to challenge it. Moreover in suggesting that my description of "Irish partisans" but no more "illuminating" (than memoirs) applies to all professional history of the period, Mr Boyce completely misunderstands my preface, where I mention separately the "more recent studies" which have "used unpublished contemporary evidence", saying not that they fail to illuminate the events of the time, but that "their authors have tended to restrict their examination to specific problems".

At the beginning of my bibliography I note that "the following is strictly limited to a list of those sources specifically referred to in the text and references", and, given my intent to base my study entirely on contemporary documents, I felt that specific references to most secondary works was unnecessary. I find it amazing, therefore, that Mr Boyce should conclude that my book is a "second-hand" work, is not mentioned. I have not used it. As

RIBA visit

Sir, - I have read with interest the article "Criticism built on rocky foundations" (THES, November 4) and the subsequent correspondence, and would like to comment as follows.

If one were objectively and from "cold", to read the final report of the Royal Institute of British Architects (RIBA) Visiting Board to the Oxford School it would not read as the stuff of which revolutions and major arguments are made. Furthermore, if one examines the process by which a final report from the RIBA Visiting Board is arrived at, namely that the board visits the school, a draft report is prepared, the school is entitled to comment and object to parts of that report, etc etc so that finally an acceptable final report is agreed - all of which has happened in the Oxford case - then this mechanism itself cannot be said to be unreasonable.

Furthermore, if one then looks at the relationship between the Council for National Academic Awards and the RIBA Board of validation, one has a situation where one body, namely the CNAAs, examines the academic processes through which the students pass as a result of the academic standards of the degree course and the RIBA, as the professional body, examines the product of that degree course to ensure that it is acceptable for professional recognition. That this is once again in principle a perfectly acceptable and supportable mechanism.

The question therefore seems to be what went wrong in the particular case

of the Oxford/RIBA Visiting Board. I suspect that two things went wrong. First when the draft visiting board report was sent to Oxford, the heartache, resentment, lack of confidence etc produced within the school, the uncertainty it raised as to the future of the school in the eyes of staff and prospective applicants produced a most unsatisfactory interregnum whose damage, rancour, etc had long outlasted the final and not totally unsatisfactory result. This is a situation from which we all can learn.

The second matter is the evidence on which the visiting board makes or appears to make its decision. The THES article suggested that it is the lowest pass student portfolios. Gibbs-Kennet of the RIBA indicates that it is in effect all the work the students produce. The truth must almost inevitably lie in practice somewhere between the two. Again there does seem to be some serious difference of opinion about standards between the external examiners approved by the RIBA et al, and the visiting board approved by the RIBA et al. In reality, a school of architecture produces people, and their portfolios, dissertations, etc, are really manifestations of how the people's experience and ability is developing, and the standards they have reached. Perhaps, therefore, a way forward would be for the visiting board in coming to its decision to interview the person with his portfolio - as does the external examiner.

Yours sincerely,
P. E. O'SHEA
The Welsh School of Architecture
University of Wales
Institute of Science and Technology.

enrolments almost to current levels.

Adherence to inadequate and superceded projections could result in a serious deficit in the number of primary and secondary places at both primary and secondary levels across Australia within a few years. Overall, the country has seen intakes to primary teacher education courses drop by about 50 per cent since 1975. Unexpectedly high retention rates in post-compulsory school education are likely to counteract demographic factors so that secondary school enrolments will probably not fall as previously expected in the years to 1990.

A much stronger emphasis on teacher education is essential if Australia is to avoid a crisis in teacher supply and demand later in the decade.

Government policies to encourage greater participation in higher education will almost certainly affect the demand for university and college places during the latter half of the 1980s. When this is viewed together with the growing demand for trained school teachers, it becomes clear that higher education provision in Australia will have to expand considerably in the foreseeable future.

Yours sincerely,
JANE NICHOLLS,
Research officer,
Federation of University Staff Associations,
Melbourne, Australia.

Australia

Sir, - Geoff Maslin's article about the future effects on Australian higher education of declining enrolments in Australian primary schools (THES, October 14) is, unfortunately, based on out-of-date estimates.

The latest official projections (July 1983) indicate that the drop in primary school student numbers will be a mere 5 per cent between this year and 1987, after which enrolments will start to climb again quite steeply. Births have increased by 7 per cent in Australia since 1979 and migration levels have run at unexpectedly high levels. Growth of over 9 per cent on the 1987 figure is expected by 1993, returning

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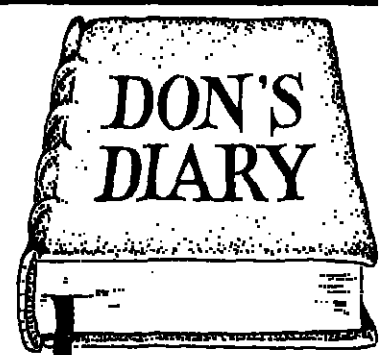
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JANE NICHOLLS,
Research officer,
Federation of University Staff Associations,
Melbourne, Australia.



Sir, - Might I ask what purpose the column Don's Diary is meant to achieve? Is it intended to provide an insight into how splendid chaps spend their week and be an example to the rest of us? Is it supposed to be witty? Or is it just a big ego trip?

I have no wish to criticize those who have written in the column; I am sure they are all very good at their jobs, but I am also sure that the detritus and minutiae of their lives has no interest other than of a prurient nature. Good, so his car breaks down today isn't he a busy man, he manages to fit in time to see his wife for five minutes!

I cannot see how this rubbish continues to be printed, except of course that there is probably a big queue of people offering to write about seven boring days in their life.

Yours faithfully,
JOHN KIRBY
Site Librarian,
Sheffield City Polytechnic.

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Melbourne, Australia.

Union faces flat rate rise demand

by David Jobbins

A revolt over the way next year's pay rise should be distributed faces resistance from leaders of the college lecturers' union.

They favour a simple percentage rise but face demands for a flat rate claim from four of the 14 regions of the 7,000 member National Association of Teachers in Further and Higher Education.

University lecturers are to claim 8 to 9 per cent next year as well as a range of structural demands. A package was endorsed by the Association of University Teachers winter council in Hull at the weekend and will be lodged with the employers by the end of January.

The AUT is likely to try to tilt the award towards the lower paid but the leaders of the college lecturers' union are opposed to this approach after adopting it for the past two years.

Already under pressure from the 3 per cent target for public sector pay and the possibility of higher pensions contributions, the Nafhe leadership faces a polarization of views among its own members.

This year only two regions favour the compromise compared with eight at the same point in the last pay round exercise. But of the four supporting flat rate East Midlands is a convert from the compromise formula. A second, Inner London, is embarrassed to join leaders because its secretaries, Mr David Triesman, was one of the key supporters of the simple percentage claim.

But union leaders, who will be discussing the issue over coming weeks, will be able to comfort themselves that at the moment there is a clear majority for their proposals.

A pay increase for part-time staff and priority for the lecturer/lecturer 2 transfer are also likely to be high on the agenda. The Nafhe is pushing for a meeting of the joint council on conditions of service to consider a draft claim for part-timers to be drawn up in January.

On pensions, union leaders fear that the Government's actuary's call for increased contributions may spur ministers into increasing teachers' aged 6 per cent payments, as has happened with the fire and police service schemes.

Yours sincerely,
JANE NICHOLLS,
Research officer,
Federation of University Staff Associations,
Melbourne, Australia.

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Melbourne, Australia.

Agricultural researchers begin fight

by Jon Turney

Institute closures and extensive redundancies are feared among the Agriculture and Food Research Council's new corporate plan, which was approved by the council last week.

Staff, their unions and some institute directors are preparing to fight execution of the plan next year - and the first demonstrations have already taken place.

The sweeping rationalization outlined in the plan is the product of the council's determination to promote new priorities, especially in food research, while adapting to budget cuts imposed by the Advisory Board for the Research Councils. The new financial targets were confirmed in this week's science budget announcement.

The total job losses over the next three years have risen each time the AFRC has revised its figures and now stand at 800. Up to 500 of these are expected to be through compulsory redundancy.

However, the council is still set on increasing university support, in accord with the AFRC's wishes. It appears that new university grants will be awarded at the expense of jobs among institute researchers.

The corporate plan identifies six areas as over-supported at present. They include arable crops, cereal variety production, livestock disease, fruit, crop protection and animal nutrition.

These programmes will be cut by just under 10m, affecting work at Rothamsted Experimental Station, the Letchworth Laboratory, Long Ashton Research Station, the Plant Breeding Institute, the Weed Research Organisation, East Malling Research Station, the National Institute for Research in Dairying, Grassland Research Institute and others.

These cuts will permit increases in cash for "under-supported" work in food science and technology, human nutrition, plant molecular biology and biochemistry, animal hormones and behaviour and electronic control systems.

The AFRC's plans are likely to be raised in Parliament early in the new

year, and the council has sent copies of the plan to 100 MPs. The Institute of Professional Civil Servants has sent papers to the same MPs and is working on a detailed commentary on the plan.

The union argued at last week's council meeting that the plan should be published as a consultative document, with no decision on whether to go ahead.

Mr Tony Hall, chairman of the trade union side in the AFRC, said: "We regret that the council decided to publish the corporate plan and to implement it without detailed consultation with staff and other interested parties."

He said that the IPCS would fight to retain all the existing AFRC sites.

The full details of such scheme will be ready to report to the board of the NAB by the summer, when the continuing education group completes its business.

Dr Robin Nicholson, author of the report and Cabinet Office chief scientific advisor, proposes a new registered invention scheme giving short-term security of intellectual property rights without the necessity to apply at once for a full patent.

He argues that this should be part of a forthcoming Intellectual Property and Innovation Bill, designed to underpin a major policy statement on innovation. The report carries the Prime Minister's endorsement, and is intended to provoke discussion of the best way of ensuring the UK exploits its best ideas to the full.

The report points out that while the UK has limited raw materials and a small home market, our education system and reputation for inventiveness are good. "The ability to claim ownership of ideas is a vital step in securing a profit form them," it says. Intellectual Property Rights and Innovation, Cmnd 9117. HMSO, £4.65.



Grassroots protest: researchers from the Agriculture and Food Research Council-supported Welsh Plant Breeding Station demonstrated in the centre of Aberystwyth last Monday.

Ashton Research Station, the Plant Breeding Institute, the Weed Research Organisation, East Malling Research Station, the National Institute for Research in Dairying, Grassland Research Institute and others.

DON'S DIARY

MONDAY

In the train to the Weymouth-Cherbourg car ferry, I reflect that linguists are the only teachers whose teaching can be 100 per cent spot on, always, or they are shown up. Nowhere do physicists, or historians, or sociologists find their subject practised as French is practised by 50 million paragon in France. Nor do they have to worry that, no matter how good they are, they will never be better than the natives. With this sobering thought I am off to a week in Loches which I have not revisited since grandpère died there over 30 years ago. It is also the birthplace of Alfred de Vigny to whom I am remotely related, just enough to be able to join "Les Amis d'Alfred de Vigny" as *membre de la famille*. His is the only name I can drop, so I do sometimes. It creates a slight, puzzled silence in English conversations, like a verbal semicolon. For the full, correct effect I say *Cousin Alfred de Vigny*.

To get to Loches, Weymouth-Cherbourg is not the obvious route. I belong to that growing group of people who travel the slow way, to get there gradually. Air travel is too much like changing film sets. On the ferry are lots more like me. Only when we moor do I realize that travelling there is a class of true, pure travellers whom a disembodied voice sternly forbids to disembark at all: these have come just for the round trip, to eat Sealink food, soak up duty-free, and keep Cherbourg forever in their hearts an unattainable aim.

On the quayside I manage to find one of those supermarket trolley things for luggage. A stunning air hostess, obviously grounded, is shoeing English OAPs into their coaches. I ask her where our hotel is, the one my wife has booked a room in by phone from London. We travel by easy stages. Ah, it is near, just behind that warehouse. Once round the corner, after bumping the trolley over tramlines, I see what we have let ourselves in for. A sort of mini triumphal way leads to the hotel, shipped complete from Dallas and placed on the quayside. Mercedes-Benzes park in front of it, as of right. My trolley manoeuvres rather well, I think, up the long approach. No one helps me with my cases, and I am allowed to carry them myself to the fifth floor.

TUESDAY

At breakfast, the other guests seem a little puzzled by the transatlantic fare. So am I. They mix fruit salad, cream cheese, and croissants on one plate. Mind you, they have a right to be: they are all Chinese. At dinner yesterday they all sat at one table and talked volubly in French. "Ce sont des gens d'ambassade," said a waiter. So French remains the language of diplomacy. Perhaps they are from different Chinese embassies and French is their *lingua franca*. I note their shabby subcones and shabby table manners. Brought up to eat their rice with chopsticks from bowls held two inches from their noses, they reverse the process for knives and forks by bringing their noses to their plates. What they are doing in Cherbourg will worry me for years.

A bigger worry assails me at the station. I swing the paperback stand round to buy a good read for the trip ahead (change at Le Mans, change at Tours, an all-day train journey, love). Every paperback is *traduit de l'anglais* or *de l'anglais*. The names with most titles on that rack is Barbara Cartland. Is the French novel dead? Buy *Le Figaro*, full of warnings of the *socialo-communist* takeover.

From the train, those inefficient French farmers we subsidize don't seem to be aware of our structures. In a long strip both sides of the railway lines French farmers seem to be doing all right. Here be better mountains and Champagne, says a hedgehog, about, under the vine. The vine is a line graph. They haven't heard of hedgehog's bubble.

or, nearer the Loire in the wheelands, do they seem to know about straw-burning. Backward of them.

Le Figaro is excited about a racialist backlash in a by-election. A quarter of the population in some place or other is non-French. On my train it seems remote - families see aunts on and off at pretty little stations; the train has electronically-controlled doors, air-conditioning and spotless loos. A four-star general courteously punches one's ticket, another announces stations and stopping times over a faultless intercom.

WEDNESDAY

Loches is the same. The pleasure of patchy recognition. Our landlady makes her own jams, even rhubarb jam. It is the only thing I find unexpected. I suggest adding a little of ginger. We swap recipes, for I am something of a jam-body. Our stock is high. When we announce that tomorrow we intend to walk 20 kms to Loches-sur-Indrois to see the house grandpère sold up in 1949, she throws up her hands. The *Anglais* are still *fous*. There are no buses, no taxis; if we are stuck, we are to ring her to motor over and fetch us. No way, we answer; no need at all.

We go to Loches cemetery meanwhile to find grandpère's tomb. My mother had a *sœur de lait*, as grandmère could not suckle her children. Ladies didn't much then. The daughter of her milk-sister keeps the hardware shown over the bridge (*maison fondée en 1740*, it says). Only she knows where he lies, and directs us. We fail.

THURSDAY

We set out for Loches. The way is nearly straight, much of it through the old Royal forest of Loches, its oaks in rows, kempt, Cartesian.

Scarcely any traffic. No one seems to work in the countryside nor birds sing. The verges are well cut, litterless. We picnic in a copse. Where do the French dump their old three-piece suits and rotting mattresses?

Footcrops we arrive. I thought kilometres were shorter than miles. In 30 years the hamlet has grown into a village with a brand-new *maître* large enough for a township. Grandmère is buried in the churchyard and I wish to bring back a tuft of grass from her grave. We walk through the village and about half a mile beyond to see the old house. Suddenly it is there, bigger than I remembered. An old farmer, a former tenant of grandpère's, tells us of other octogenarians in the village who recall my kin. From their house we phone Mme Robin, crestfallen; no trouble, in half an hour there she is and we are riding back to Loches.

The birthplace of the poet is, naturally, in the rue Victor Hugo. An old lady points it out, as it is hidden by builders' scaffolding. Behind the renovated facade they are building council housing. "N'est-ce pas malheureux?" she says. Vigny would have been stoical about it, as was his bent. He had other troubles; not least a sickly English wife who never managed to learn enough French to understand what he wrote.

My mother once told me that family tradition maintained that Vigny cut some of his mother's hair when she died to make himself a wig. Later she could not recall having told me this. I record it here, for posterity.

SATURDAY

With precise directions, I find grandpère's tomb. He had himself buried in an old vault belonging to relatives, one who died in 1863 and the widow in 1892, a *stovewall* to the last, and beyond. No one bothered to add his name on the tombstone. Next year, I shall.

John Hart

The author teaches Spanish and French at Hatfield Polytechnic.

Peter Scott reports from the SRHE conference NAB may start visitations

The National Advisory Body is likely to start formal visitations to polytechnics and colleges, on a similar pattern to the University Grants Committee's visitations to universities.

Mr Christopher Ball, chairman of the NAB board, told the annual conference of the Society for Research into Higher Education at Loughborough University last week that this plan was among the NAB's five priorities for 1984.

The other four are: a review of art and design courses, especially DATEC courses; a review of colleges engaged in (or recently engaged in) teacher education; developing a research policy for local authority higher education; and considering possible classifications of institutions and taking a second look at concentration.

Mr Ball admitted that the future of higher education sometimes appeared to offer little more than "a fierce and unequal struggle between government and defender of higher education for adequate resources". But he believed its future would be more complicated, interesting, and purposeful.

He offered two contrasting models of the future - the doomsday model in which the equivalent of 10 universities

and 10 polytechnics would have to close by the early 1990s and the responsive model in which higher education would successfully search out new markets.

Mr Ball added: "If higher education is flexible about access and courses, then resources may also become more flexible. I believe that resources follow coherent purposes."

He rejected the view that universities were the fixed part of higher education and the public sector "a header tank that can be filled or drained at will". The polytechnics and colleges, together with the NAB, could realize something like the responsive model.

"I do not believe that the nation will lightly dismantle and throw away a system of HE that can prove itself to be cost effective, of a quality to satisfy valid and rational, which is striving to meet the needs of employers, and is offering opportunities to a wide range of students including non-traditional groups, to the unemployed, to late developers and other mature students, to adults requiring professional updating or retraining, and to those who live far from the nearest university," Mr Ball added.

"Local authority higher education is

like Heineken's beer; it reaches those parts of the country other sectors cannot reach."

All this could be achieved, Mr Ball suggested, by planning for a system of dispersed access to higher education built around a range of major institutions of proven quality.

The NAB had learnt three lessons from this year's planning exercise, he said. First, any future plan must be conducted over a longer period. The proposal now was for the next major exercise would start next autumn and issue in advice to the Secretary of State 18 months or two years later in 1986.

Second, the exercise had to be conducted on the basis of an agreed, approved and understood strategic framework. Mr Ball argued that this could be achieved by building on the NAB's long-term strategy discussions document, responses to which are due by the end of the month.

Third, one half of higher education could not be planned in ignorance or without taking full and proper account of - the other half.

"The need for integrated planning of higher education in future is evident," said Mr Ball. "And at present we lack a forum where this can take place. Is there anybody up there?"

Ranking would lead to 'corporate state'

The Council for National Academic Awards' decision to rank polytechnic and college courses would lead to "a form of academic corporate state", Dr Peter Knight, deputy director of Preston Polytechnic told the conference.

In a strong attack on the CNAA Dr Knight, who is also a member of the National Advisory Body's board, said that it was totally and completely unacceptable for the council to rank courses as it had just done with town planning degrees.

He argued that the CNAA was incompetent to offer such advice. Its experience was in threefold validation which ensured that degrees were up to an acceptable standard, a process that depended on honest disclosure.

The council only looked at degrees every five years and sometimes less frequently. So at a time of very rapid change it could offer "no continuity of advice", Dr Knight claimed.

"For the CNAA to start to rank courses is also corrupt in the nicest possible way," he continued. "Its process depends on peer review which remains disinterested if it is confined to threshold validation. But if courses are being ranked there is a hidden agenda: should a course be approved if one day it may compete with mine for survival?"

Dr Knight also alleged that the CNAA's new policy would put its staff in an invidious position. "It will turn them into academic supergrasses," he said.

It was not the job of the council to



Dr Knight: "no one likes the CNAA"

use its validation powers to try to shape the non-university system in the way it wanted. But if it ranked courses it was bound to go down that road.

No one in the system likes the CNAA but no one dares to insult the alligator until they are safely across the river - and we have to cross the river over and over again," Dr Knight said. "I want to invite people to an insurrection against the CNAA. The town planning mess has given the institutions the opportunity to flex their muscles."

Government rejects two year degrees

The Government remains unconvinced by the Leverhulme report's proposal for two-year pass degrees for most students, Mr Peter Brook, under-secretary for higher education, told the conference.

He said that the majority view still was that a three-year degree provided the best preparation for students. Two-year degrees would be produced "a great deal of pressure for the norm to become a four-year course and for grants to be extended accordingly".

But the minister added that the Government strongly supported two-year diploma courses which offered good job prospects at low cost. He hoped the National Advisory Body would continue to give high priority to higher diplomas.

On research funding Mr Brook claimed: "There appears to be some consensus emerging for an increase in selectivity in the funding of research both within and between institutions." But he admitted this was a major policy matter that would be influenced by the outcome of the UGC's great debate.

He welcomed the Leverhulme proposal for a higher education policy studies centre. He hoped institutions would consider giving it their support "from their existing resources" but made it clear there was no hope of Government funding.

Adult education 'not using TV'

Traditional adult education still makes little use of television as a learning resource, according to responses to London Weekend Television's *Breadline Britain* series on poverty.

The majority of the 6,000 requests for the accompanying booklet came from people with no particular educational link. But the rest, only 1 per cent came from adult education while 13 per cent came from universities and polytechnics and 12 per cent from further education.

Higher and further education institutions tended to be interested in writing the programmes into part of their existing courses. But Paul Cowen, community education officer at LWT, found that adult educators did not respond positively to the series.

More interest was shown by community groups and unemployed workers' centres like those who used *Seaside Television*, teaching part of an *Open School* course based on *Seaside*. The learning pack is available from LWT, Stephen, community education officer, LWT, Cowdrees, Essex, SS16 3PL.

Senate attacks grants plan

Aberdeen University's senate has attacked the Government's "mean proposals" to reduce the student grant and change the travel award system.

The senate unanimously backed a motion presented jointly by the principal, Professor George McNicol, and the president of the students' representative council, Mr Nick Peters. It condemned the changes in minimum grant and parental contribution as "cheese paring" and warned they would result in "significant hardships for many students."

A flat rate of travel award would also be "potentially very adverse, particularly for Scottish students."

There is a clear case for restoring the real value of the student grant, said the senate. The recent survey from the Committee of Vice Chancellors and

Principals revealed a continuing deterioration with the cost of accommodation and food rising last year by 20 per cent more than the grant increase.

Mr Peters said Aberdeen students were in a particularly difficult situation. They had to pay high fees and a result of the oil boom, and food prices were higher because of Aberdeen's geographical isolation.

"Many students aren't eating properly, which can only do them harm. The SRC knows from several students who have been unable to continue their course for financial reasons."

Mr Peters added that the senate's statement gave credibility to the students' claims of an increased grant, and urged other student associations to approach the university authorities.

Courses get temporary reprieve

Goldsmiths College, its governing body, has temporarily reprieved some threatened courses but approved closure of its art foundation course, following data in student questionnaire responses by the Department of Education and Science.

Plans for seven new courses to begin in 1985/86 were also announced. They include postgraduate diplomas in social policy, jazz and popular music, and women's studies; BSc anthropology; and a history of art and fine art course.

Polys lead in computer use

by Jon Turney
Science Correspondent

The government should find an extra £100m over the next 10 years to upgrade computers for teaching in universities, a new report to the Computer Board for Universities and Research Councils argues.

The report, published this week, says polytechnics are ahead of universities in use of computers for teaching, and finds that too much of the Computer Board's budget goes on computers for research. It calls for collaboration between higher education and industry to design a standard "student workstation", with at least 50,000 such workstations in place by 1990. At present prices, these would cost around £3,000 each, though this should fall.

The report, prepared by a group under Dorothy Nelson of Hatfield Polytechnic has been published as a discussion document. However, ministers have already indicated there is unlikely to be new money for the plans proposed. If so, it will be up to the

Computer Board and individual universities to try and promote developments in use of computers.

The group make sweeping criticisms of existing provision, saying present computer facilities "are inadequate, both in quantity and quality, for the genuine needs of students on undergraduate and postgraduate taught courses". And the group found there was little planning for computer-assisted teaching in most universities.

The report argues there is scope for using computers in all university departments - for new applications like electronic mail, simulations and modelling, the "electronic blackboard" for animated graphics, games, and databases for staff and student use.

To concentrate minds in universities, the group sketch uses of computers in a "backward" and an "advanced" institution in the early 1990s. In a backward university, they foresee student registration for computer use by course, with mathematics, computer science and engineering students having priority for terminal

time. Lecturers in such a technically impoverished institution would still be able to get advice from specialist staff on developing tutorial packages using computers.

In the brave new "advanced" university, by contrast, all students will have a powerful personal computer connected to an information network. They would be able to plug in anywhere on campus and use programmes developed by staff at their own and other universities. They would be accustomed to use computer networks for sending messages, writing essays, searching the library catalogue, solving assignment problems, and recreation, including music synthesis and graphic art.

The report makes clear that many of these applications will depend on finding people to write special computer programs for educational institutions.

Report of a Working Party on Computer facilities for teaching in universities. The Computer Board for Universities and Research Councils.

Badge is on the other lapel

A professor at Southampton University, where two students were barred from classes after refusing to remove their CND badges, is to wear his CND badge when teaching next term.

Professor George Hutchinson, a member of CND's national council said: "I shall announce to the class I am prepared to lecture to those who are not wearing CND badges."

Professor Hutchinson, also a member of the AUT national executive, is a prominent CND supporter and was a leading figure in the campaign against the construction of a bunker on National Trust land in the Chilterns.

Southampton University's senate has expressed concern and regret at the events surrounding the refusal of law lecturer Dr Alec Samuels to teach two students while they wore "political" badges. It hoped events would not be repeated but did not direct Dr Samuels to lift his ban.

Increase in peace studies

More than half the local education authorities favour some form of peace studies teaching and 44 authorities provide lessons or informal teaching, according to a survey from Lancaster University.

The survey of 125 local authorities by the Richardson Institute for Conflict and Peace Research also showed wide variations according to the political control of the authorities, with one out of three Labour and one in 10 Tory councils including peace studies in their curriculum.

The work was done by Dr Paul Smoker, reader in peace and conflict research at Lancaster and Hanna-Fred Rutenow, professor for social studies at Berlin Technical University. The Richardson, named after Lewis Fry Richardson, a British Quaker who did pioneering work on arms races and was, in appealing for funds to continue his research, and postgraduate programme.

Correction

The advanced further education pool allocation to City of London and Thames polytechnics in 1983/84 was £1,305,000 and £8,906,000 respectively and not as printed in last week's *THES*.

Security clampdown 'would cause damage'

by David Jobbins
A security clampdown would not make events such as the murder of Senator Mr Edgar Graham any less bloody and would gravely damage Queens University, Belfast, Dr Peter Fogarty, the vice-chancellor, has warned.

Speaking at a graduation ceremony he said that if some of the suggestions made about Mr Graham were taken on board, the university would become a



Reeling, writhing, though hopefully not fainting in coils: Middlesex polytechnic BA social science student Frank Maywood is spending his placement year studying the design and role of reptile houses and the care of their inhabitants at the North Wales Mountain Zoo near Colwyn Bay.

Private sector attacked

The further education officer of the Educational Institute of Scotland has launched a savage attack on private sector involvement in the Youth Training Scheme.

Mr Arthur Houston, speaking yesterday to lecturers at Bell College of Technology, claimed resources available were usually second or third rate. "What is presented as a learning environment is often a few benches in a corner of a crummy workshop or an old building or shed that no one else is using."

Parents of YTS trainees should look very closely at what the private sector was "passing off" as quality off the job provision, warned Mr Houston. There was no guarantee that qualified teaching staff were employed.

In further education colleges, on the other hand, the premises, staff and courses were subject to public accountability, he said.

Mr Houston strongly criticised the Scottish Business Education Council for opening its courses and exams to the private sector. It has recently accepted around 400 trainees from the South of Scotland Electricity Board and the Scottish Gas Board for its certificate in vocational studies and is to validate several top training agencies.

Scotbec would give the private sector credibility which it currently did not have, said Mr Houston. "It will stimulate the growth of private education based upon the need to make a profit."

In his book *Scholarship* he avoids the quick fix, the simple formula. Rather, with astute analyses and lucid prose he confronts us with fundamental problems about the uses of critical intelligence and points to answers that will enable scholarship to both survive and flourish. How can we, Professor Pellikan asks in his concluding chapter, pursue quality and enhance equality? Can we, at a time of retrenchment for higher education, do more with less?

Our response to Professor Pellikan's provocative questions will affect the future of the university and the world.

Ernest Boyer



Why the American nation must protect its seedcorn

If anything is clear from the debate on education in America, it is that the various levels of formal learning cannot operate in isolation.

This obvious truth obviously has been violated. Under the twin banners of professionalism and specialization, the formal branches of teaching and learning have tried to go it alone. Not until something - say the absence of basic skills in students - stopped them in their tracks, have educators bothered to take notice of each other, too often in an accusatory or denunciatory way.

Secondary school students cannot read and write. Why? Because of deficiencies in the elementary school, where the responsibility for the problem is transferred along to the students' homes. University students do not measure up. Why? Because the secondary schools have failed.

The ultimate humiliation comes when students in graduate or professional schools cannot read, write, compute or communicate at a level of skill sufficient to the demands of advanced education. Is the blame to be put on the schools out of which they come, or on professional and career programmes into which they have gone - where the education may be as narrow as the student's ignorance outside the specialization is wide?

Educators in America are beginning to acknowledge that they are in the soup together. No one should be denied a share of the blame. But also, no one is without resources for effecting a remedy. Thus, while the current debate about the quality of education between these two important factors, it is not surprising that serious questions are being asked about advanced study too.

Recently, university administrators and scholars from across the nation came together at Princeton, New Jersey, to talk about the health of graduate education. The focus of the conversation was on a Carnegie Foundation essay written by Jaroslav Pelikan, Sterling professor of history and former dean of the graduate school at Yale. The book is entitled *Scholarship and Its Survival*.

Graduate schools, Professor Pellikan says, are places where academic scholarship should prosper. But his essay suggests that it is no longer certain that graduate education is a true expression of scholarship. "The graduate school," Pellikan says, "finds itself cast in the role of the university's bureau of standards. And what are some of the standards that are more important than others, perhaps most important of all?"

First, "scholarly research defines the nature of the university," according to Pellikan. "This fact, and the prospect that the ranks of university scholars will continue to thin out under pressures from competing professions and a paucity of opportunity for young scholars, makes it imperative that demographic realities and their implications for the future be a part of any discussion of 'scholarship and its survival.'"

Dr Pellikan warns that the vitality and growth of scholarship is threatened now because there are too few new recruits in the ranks of the scholars. As David Riesman put it, the nation must protect its seed corn.

In addition to attracting good students, universities must improve general education if scholarship is to survive as the cornerstone of graduate schools. Pellikan writes: "The quality of scholarship is itself bound up with the state, and the fate, of general education."

the ability to use the mother tongue." Mastery of English - careful writing, critical editing - is one of the non-negotiable skills of scholarship.

This emphasis on the centrality of language reinforces the seamless web of education. The same priority is established, for example, in the foundation's report on American secondary education.

Professor Pellikan also argues for general education with a world view. He writes that "part of the general education of the 'gentleman' in the final decades of the twentieth century, and above all of the general education of the scholar must be a responsible acquaintance with some other culture, past or present. Ordinarily, though not necessarily, this acquaintance should include the use of its language."

One of the most surprising recommendations offered by Dr Pellikan for more attention at the graduate level to the value of cross-disciplinary concentrations. This at a time when specialization and fragmentation seem to dominate the academic scene. Disciplinary connections are a new reality in the biological sciences - a prototype exists there - and the challenge is to extend this emphasis to other fields of study.

Also, professional schools, like graduate schools, depend on the colleges to provide the general education, "process" more than "product", upon which advanced training depends. He adds, however, that there is not yet a corresponding integration of activities between these two important factors.

Professor Pellikan argues that in too many cases, professional schools are at the university but not in and of the university. Also, there should be a deeper appreciation for the fact that a university at its best will feature professional schools and a graduate school where attention to the advancement of "knowledge" and training in advanced skills go forward together. Finally, we are reminded that if scholarship is to survive and prosper in the university, the emphasis on "balance" must be equalled by an emphasis on "integrity". There is, Professor Pellikan points out, a tendency in the university to talk glibly of the "community of scholars". But most persons engaged in such talk are "far more explicit about what 'scholar' means in that definition than about what 'community' means."

In an earlier Carnegie Foundation essay, *Higher Learning in the Nation's Service*, we made a point that lingers in our thinking: "In the final analysis, research is a creative response to anything we fail to understand and yearn to know. Much of the university's future engagement with the realities of the world will involve the flash of insight that comes only after the intellect has been disciplined in the tradition that the educator has a responsibility to pass on. Research in its purest form is to be found in American universities, where it cannot be allowed to languish or starve. Sustaining that creative process is absolutely crucial if higher learning is to be truly in the nation's service."

In his book Pellikan avoids the quick fix, the simple formula. Rather, with astute analyses and lucid prose he confronts us with fundamental problems about the uses of critical intelligence and points to answers that will enable scholarship to both survive and flourish. How can we, Professor Pellikan asks in his concluding chapter, pursue quality and enhance equality? Can we, at a time of retrenchment for higher education, do more with less?

Our response to Professor Pellikan's provocative questions will affect the future of the university and the world.

Ngaio Crequer and David Jobbins report on the Association of University Teachers' conference at Hull University

'Defeatist' speech is attacked

A fierce attack on the "languid defeatism" of Sir Edward Parkes, former chairman of the University Grants Committee, was made by Ms Diana Warwick, general secretary of the AUT.

She referred to his final speech, before he retired, when he warned vice chancellors of the choice of some universities staggering on, others becoming half-dead. Ms Warwick said she had toured many universities recently and they were "bloody, but unbroken".

She also said it was clear that Sir Keith Joseph, the Secretary of State for Education, had totally abandoned level funding for the universities. His education policy was based on an "anecdotal" approach. "It is totally negative, there is no vision, no planning."

"He wants to maintain quality; that cannot be done with a third cut in overall resources," said Ms Warwick.

In a debate on the cuts in education, she was also scornful of the approach taken by Mr Peter Brooke, under secretary for higher education. At a recent meeting between Mr Brooke

and the AUT, Mr Brooke said they should be glad to know they were being alerted before there were any cuts, she claimed.

The AUT was also due to meet the Confederation of British Industries, ministers, learned societies and others to get the message across about future student demand.

Dr Judith Hook, of Aberdeen, also referred to Sir Keith's "anecdotal" evidence. "All he has is the half-baked research of Leverhulme. He has no research equipment at his own office."

Dr Hook also criticized the Committee of Vice Chancellors and Principals, temporary custodians of the university level funding for the universities. His education policy was based on an "anecdotal" approach. "It is totally negative, there is no vision, no planning."

"He wants to maintain quality; that cannot be done with a third cut in overall resources," said Ms Warwick.

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Row over union structure

A bitter row over the future structure of the union dominated the AUT's council and brought an unprecedented attack on the ability of headquarters officials to meet the needs of members.

The debate was polarized from the start when president Dr Bill Stephenson ruled that if a proposal from the executive to appoint a fourth assistant general secretary in the London headquarters was accepted by council, demands for regional development and an official for the West Midlands and Wales would fall.

The eventually successful plea for more staff at headquarters was made by general secretary Ms Diana Warwick, who agreed that the regional officer experiment in the North, Scotland and London had been an enormous success.

A fourth AGS would mean there would be more time for officials to service local associations and would enable her to designate an official responsible for research staff.

But Ms Anne Spooner (Aston), leading the demands for regional rather than centralized development, alleged that local associations were actually "shielding" headquarters officials from heavier workloads. She claimed that having a headquarters official responsible for universities without regional officials was not working.

Ignoring an appeal from Dr Stephenson she went on to criticize members of headquarters staff without naming them. "Every time we ring headquarters we speak to someone different."

Ms Warwick described some of the debate as "quite uncalculated" but agreed to prepare a policy paper on a regional structure for the May council. On that understanding council gave the go-ahead for an extra headquarters appointment.

work alongside the AUT on tenure. He said Privy Councillors should also protest against what was being done in their name.

There was some discussion at the council about the problem of universities making a large number of temporary appointments to avoid appointing new tenured staff. The council called for local associations to enter negotiations to limit temporarily funded appointments. Kent said that almost all new appointments since 1981 had been short term.

Call to resist tenure moves

The council called on both the CVCP and members of the Privy Council to resist moves to weaken or change tenure.

Mr Ron Emmmanuel, of Glasgow and an executive member, said the collaboration of the CVCP with the attempts to reduce tenure was disgraceful. "The group of people whose job it is to protect the university system, their collaboration with this philistine Government is an act of betrayal."

He called on them to stop being the "lackeys" of the Government but to

Lecturers' claim will be 8 to 9 per cent

University lecturers are to claim barely half the pay increase needed next year to restore salaries to their 1979 levels.

The AUT's council in Hull was told that the 1984 claim, assuming inflation at 5 per cent and exclusive of a variety of structural demands, would be 8 to 9 per cent.

Dr Andrew Taylor, an AUT vice president and chairman of the union's salaries committee, said that to restore 1979 levels would mean a claim of 14 to 15 per cent when the "cash limit" on university salaries was 3 per cent.

"If we are going to break this cash limit we will need our members' support," he said. "While members see a 15 per cent claim as wholly unrealistic,

as many teachers have done with the National Union of Teachers claim, we can persuade them to support an 8 to 9 per cent claim."

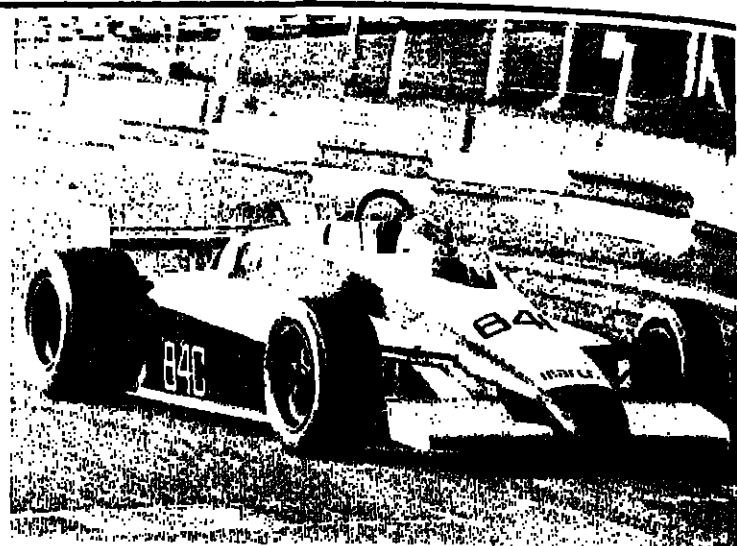
The AUT's claim, to be submitted by the end of next month, demands maintenance of standards of living and restoration of relative salary levels especially with clinical academics, who have received higher increases than their other academic colleagues in recent years.

Council carried a motion warning of the serious problem of demoralization created by the lack of prospects for job mobility and promotion, and calling for maximum pressure for a merger between the lecturer and senior lecturer scales.

Considerable anger was expressed at the refusal of two research councils to implement in full last year's claim which was heavily weighted towards the lower-paid.

For all research staff the average was an extra 6 per cent, but some got 10 per cent and a few almost 20 per cent. But the Science and Engineering Research Council made available only 5.4 per cent in its grants.

AUT leaders are to consider taking the SERC and the other research council involved, the Natural Environment Research Council, to the Ombudsman over their handling of the issue.



New graduate... The body shape of the new March 84C racing car, seen on its first test at Brands Hatch, was developed from wind tunnel tests at Imperial College, London and Southampton University. The car will race next year at Indianapolis in the USA, where average speeds approach 200 mph.

Oxford entry reforms 'may be exploited'

A fresh row has broken out over planned reforms to the Oxford University admissions procedures with some dons worried that schools have not been given enough warning and that colleges could exploit loopholes in the plans.

The reforms, including the abolition of the post A level special examination as a method of entry, were formally agreed by a majority of the 28 undergraduate colleges last month.

Now Dr Neil Tanner, admissions tutor at Hertford College, believes colleges could exploit a late amendment allowing them to set written tests of no more than one hour to their own first choice candidates, turning the test into a *de facto* special examination.

Dr Tanner, a key figure in what became known as the Hertford scheme pioneering entry to Oxford in the 1960s on "conditional offers" of A level results, also believes schools have not been given warning about the changes.

The reforms - allowing entry either by special examination before A level or based on A levels, school report, interview, and a possible short test - come into effect next year, covering students who first enter Oxford in 1986.

Hertford College has opposed the reforms, produced by a committee under Sir Keith Dover, president of Corpus Christi College, all along and Dr Tanner said this week he would continue to fight to produce a better system even though final college approval had been given.

"There are powerful arguments to put together a better system. It may be late in the day but this system is chaotic. There must be a standard way for colleges to apply written tests otherwise a new examination structure will grow up," he said.

Dr Tanner said there were always a few students at the end, the "inertiate scholars", whom it was difficult to assess for the last places without some form of written test. He is exploring options.

Other admissions tutors back Dr Tanner in his worry about admitting some students without some written test. But Dr Oliver Taplin, chairman of the colleges admissions committee, said it was quite wrong to imagine all colleges were eager to set tests.

"We are at present studying the implications of this amendment allowing tests. It is up to Oxford colleges to avoid dangers of creating a host of mini-exams and we hope Dr Tanner will help us in this," he said.

Mrs Ruth Deech, admissions tutor at St Anne's College, is worried about a second amendment requiring colleges to state publicly which mode of entry they prefer. She believes this will deprive students of the desired "free choice" between colleges.

Dr Taplin said all the ramifications of the reforms were now being tidied up as well as proper. "But this is a very long way from reopening the whole debate. That is finished and a final decision reached." Colleges at Cambridge will be discussing the implications of the Oxford reforms next term.

tes do not extend to the period, in the mid-1970s, when last the Tories were down.

For Labour, the Alliance remains a dangerous enemy. The SDP are clearly in difficulty, especially over members and money; without David Owen they would be sunk. But he is a formidable adversary and as long as he leads them off, the Liberals' problem is the reverse of the SDP. If the SDP is a head without a body, the Liberals are a body without a head. Since the summer they have been virtually leaderless. But their local organization remains strong, and they have done well in local by-elections. In many areas in the south they have replaced Labour as the main party to oppose the Conservatives, and in those areas (unlike the SDP) attract the natural radicals who would otherwise be in the Labour Party.

I do not share Eric Hobsbawm's overwhelming pessimism about Labour's future at all, but our relations with the Liberals in the years ahead could be rather interesting. Have a good 1984. We shall (I hope).

Jack Straw

The author is Labour MP for Blackburn.



Deflecting criticism on three counts

The Association of Polytechnic Teachers has recently spoken out strongly against the persistent and worsening underfunding of students in polytechnics and other local authority higher education colleges and has been criticised for so doing on three counts.

First, the APT has been criticised for using the year 1979/80 as the base line for calculating the relative cuts in the public and university sectors of higher education. It was in 1979/80 that the decision was made to "cap the pool" and so the polytechnics etc took their first cuts before the universities could join the downward race.

On the basis of a comparison between 1979/80 and 1983/84, the following changes emerged: a decrease in university student numbers by 4.7 per cent; an increase in polytechnic etc student numbers by 14.8 per cent; an increase in the university share of higher education funding by 4.7 per cent; a decrease in the polytechnic etc share of higher education funding by 7.5 per cent.

Such figures make a nonsense of claims of even-handed treatment of the two sectors of higher education, whether it is in terms of total funding or the unit of resource. They also rule out the argument that the cuts in the public sector are simply part of the general economy.

Even-handedness would have meant that, say, 1980/81 as the base year - after the first swingling cut in the public sector. Yet even that would not have concealed the 50 per cent difference in actual funding levels.

The second criticism is that the APT's policies would put the standard of education provided by institutions as a priority before increased access. Naturally, probably most, lecturers feel a moral obligation to give the opportunity for higher education to as many young people as possible - how can one not feel pained that rejection notes have to be sent to thousands of qualified youngsters? However, standards are an educational matter; access is political.

The third criticism is that the APT has sought to protect the status and, indeed, the jobs of lecturers in polytechnics and similar colleges by drawing comparisons with universities.

Yet such comparisons are not designed to show that universities need less. Only that comparability of qualifications requires comparability of funding and comparability of qualifications involves not only the polytechnics and universities in the UK, but is an international phenomenon.

In the past four weeks, the APT has been conducting an intensive campaign to seek to persuade policymakers of the seriousness of the situation with which the polytechnics and other major colleges in the local authority sector of higher education are faced.

And what the APT - and lecturers in polytechnics and similar colleges - need now is the support for this campaign from other unions in the public sector and from the students' colleges. Unfortunately, some people are so busy playing politics with our higher education institutions that they seem not to realize that we may suffer rather than later have none to play politics with.

Tony Pointon

Dr Pointon is secretary of the Association of Polytechnic Teachers.

Politics 'needs firm base'

by Felicity Jones

Political education for adults need a firm basis in law to guard against intolerance and "partisan attacks" says one of the last remaining reports of the Advisory Council for Adult and Continuing Education published this week.

The report was written by the advisory council's committee on political education for adults. Members included Dr Frederick Ridley, professor of political theory at Liverpool University and Professor Walter James of the Open University.

It calls for a wider degree of tolerance towards conflicting viewpoints and towards the controversy that inevitably arises out of politics as an academic discipline.

Some Government agencies have excluded projects from grant-aided programmes which were likely to cause upset. Local education authorities have tended to leave the field altogether to the universities and the Workers Educational Association, which are less directly under political control but not immune, the report says.

The basic principles governing political education should be set out in guidelines or a code of conduct and

ideally given specific recognition in law, it concludes.

The Department of Education and Science should issue suitable guidance to local authorities and other providing bodies. These should outline the importance of political education as an integral part of adult and continuing education and draw upon Her Majesty's Inspectorate's knowledge to indicate examples of good practice.

"There are delicate distinctions to be drawn between the role of political educators and political action and those concerned need clear terms of reference and protection from ill-informed and partisan attacks on their work," says the report.

High priority and extra resources should be given for the provision of development workers with the necessary back-up to undertake informal and outreach work. The DES should review regulations and methods of evaluation to help introduce new initiatives and less formal methods of work.

Political education overseas was widely recognized as making a significant contribution to the success of democracy, says the report. "The education of citizens in their various roles as ratepayers, trade unionists and

voters cannot receive too much emphasis. It is a truly open society to be achieved. It is the Government to take up a public funding scheme."

The fear of prejudicing their status in the eyes of the charity commissioners and uncertainty in the charities' law had caused many non-statutory bodies to feel inhibited about developing work. A revision of the law in this area is long overdue, to enable charitable bodies to engage freely in political education, says the ACACE.

Dr Richard Hoggart, former chairman of the council, said in the report's preface: "The council is very much aware that the term 'political education' is open to different interpretations and that a few people mistakenly equate it with political indoctrination or propaganda. It would be possible but merely cosmetic to find a safer adjective."

He said that the council had subscribed to the "long and honourable tradition in adult education which helped individuals improve their knowledge of how their political system worked thus enable them to contribute more actively 'towards making a reality of the democratic assumptions and aspirations of the political system'."

Fall in graduates 'will hamper microchip growth'

by Jon Turney
Science Correspondent

A decline in the number of UK graduates in computer science and electronic engineering will hamper the growth of European microchip manufacturing, according to a new report from the Institute of Manpower Studies at Sussex University.

Richard Pearson, one of the authors of the IMS report, said last week that the UK, especially Scotland, harboured key centres for the semiconductor industry in Europe.

"Shortage of skilled people could damage the UK and European semiconductor industry in a world market increasingly dominated by the Americans and Japanese," he said. Employers were increasingly concerned about this.

Alan Gordon, co-author of the report - produced for the European Commission's advisory committee on industrial research and development - said the Government's information technology initiative would help the supply of computer and electronics specialists.

"The number of first degree graduates in these subjects will be decreasing at a time when employers' requirements are rising," he pointed out. In

fact, the boost given to IT has so far been largely offset by the University Grants Committee cuts in computer science which set targets for student numbers unrelated to recent growth in the subject. Reports like the IMS study help strengthen the Department of Education and Science's case for earmarking funds for particular technological subjects.

The report's recommendations to the European Commission include an increase in university graduates in electronics and related disciplines, designating key research centres in higher education and encouraging staff transfers between higher education and companies.

Richard Pearson explained that the main problem apart from supply of fresh graduates for the industry was building up a group of experienced engineers. This was very difficult for universities because of the high costs involved and it was better to concentrate advanced research in a few centres in each country, perhaps in conjunction with a manufacturer, than attempt to sustain a dispersed research programme.

Manpower and Key Skills in the European Semi-Conductor Industry: IMS Report No. 80, IMS, University of Sussex.

Poly students 'overworked'

Reports by Her Majesty's Inspectorate on building, construction and civil engineering courses in two polytechnics praise industrial links, research, resources and some teaching but say that students are heavily overworked.

At Brighton Polytechnic the students who suffered most on the degrees in building and civil engineering were those from overseas, the HMI report of a visit early this year says. "In some large classes whole groups of overseas students tended to gather at the back of the room and take very little part in periods of discussion."

Considering the validation requirements that all students should be encouraged in argument and comment, and in speaking and writing in a recognised British language, the inspectors "were not happy that this requirement was being satisfied in much of the work they observed."

The amount of work "puts considerable pressure on the students and this is manifested in the obsessive note-taking, non-attendance at tutorials and

on occasion by student protest at the rapid pace of teaching."

But some teaching, particularly team teaching, was very good, while the relationship between staff and students was excellent. The quality of student work depended upon the teaching; some was very good while some was "disappointing and appeared to have received insufficient input from the lecturers concerned."

Leeds Polytechnic's four courses in building, quantity surveying and civil engineering would benefit from collaboration with the nearby college of building, says the HMI report of a visit in February 1982.

The variety of student entrants it recruits is praised: there are wide differences in backgrounds and qualifications. But the recruitment procedures take up too much time.

The overall impression of the courses was "of a sound education, well-tailored to the needs of industry" it concludes. But the heavy workload meant "it lacked the edge of quality which should exist."

Lager promotion campaign comes to a head at St Andrews

An advertisement linking lager and higher education has fallen flat in Scotland.

The advert promotes "Kestrel, the thinking man's lager" through a photograph of four students competing in the University Challenge television quiz show.

The advert has already been used south of the border with Newcastle and Sussex universities named on the

scoreboard, but matters came to a head when St Andrews' name was used. The St Andrews team are the current University Challenge champions, the first Scottish team to win the competition.

A university official said the advert had caused considerable confusion, with people thinking the university was now in the business of promoting



New principal for business school

Peter Moore is to be the new principal of the London Business School, perhaps the most prestigious centre for business students in the country.

Professor Moore, 55, who holds the chair in statistics and operational research and has been deputy principal since 1972, will take over next August.

He will succeed Professor Jim Ball who has built up the school's teaching and research work. In recent years LBS research has been used to underpin much Government policy.

Professor Moore has been a member of the University Grants Committee since 1979 and is on the Social Science Research Council industry and employment committee. He is a former director of Shell and is a consultant for a number of companies.

'No cover' rule

Lecturers at Swindon College of Further Education have been instructed by their union not to cover for part-time staff in a dispute over the dismissal of up to 70 staff as part of a cost saving exercise.

A national deputisation from the National Association of Teachers in Further and Higher Education was told by Wiltshire education authority there was no money to retrain the dismissed staff, some of whom had been teaching up to 12 hours a week.

'Increase funds for disabled'

by Sandra Hempel

The Association of University Teachers is launching a new campaign on behalf of handicapped students.

The union will work with the National Bureau for Handicapped Students to rewrite its policy document *The Universities and Handicapped People*. It will ask the Department of Education and Science and the University Grants Committee for special funds to help universities meet the needs of the handicapped.

Professor William Wallace of the AUT told an AUT/NBHS conference in London last week that the time was ripe to do something more for present and future handicapped university students.

At the moment there were not enough places for 18-year-olds and mature applicants as a whole and the disabled were particularly disadvantaged. Now the UGC was trying to cut future places, he said.

"I would like to send a letter to Sir Peter Swinnerton-Dyer telling him that when he recently sent 28 questions to universities instead of 29 he could not count. I would also like to suggest that the question that should have been asked was what should the UGC and the universities do to make proper provision for those handicapped students who are already at university and those who want to come in the future."

Throughout the conference speakers emphasized that universities should not make assumptions about the needs and disabilities of individual handicapped applicants, not even based on medical definitions of the particular handicap. Instead they should talk to the students concerned and find out what their individual difficulties were.

Mr Will Bee, a recent graduate from Sheffield University who suffers from spinal bifida, told the conference: "My condition, although it has certain general features, is unique to me and the way that I cope with it is unique to me. It is very dangerous to make assessments without talking to me."

The conference also stressed the importance of making all universities sensitive to the needs of disabled students and ready to cope with them.

While it made economic sense to concentrate all the equipment and services in two or three universities, it was essential that handicapped students should be able to choose from all the universities and all the courses on offer. They should not be confined to a few universities which were known to cater for the disabled.

Mr Michael Butler, a student advisor for the Royal National Institute for the Blind, said that while many universities prospectuses mentioned handicapped students, it was very often a bland and discreet mention. This left disabled applicants feeling that they would probably not even get an interview.

The conference heard handicapped students describe their experiences at university. Ms Helen Aveling, who has recently graduated from Essex said that while the Open University was often the alternative for handicapped people, it did not offer the contact with other students that was wanted.

Ms Sarah Banks, a profoundly deaf student from Durham University, described different types of lecturers who made life difficult for deaf people. Some mumbled from behind a beard, some marched up and down while talking so that the student could not see their mouths and others turned their backs altogether and spoke while writing on a board. "This is normally just a matter of asking: 'Would you mind facing the audience or could you trim your moustache', Ms Banks said.

The only reaction so far from Newcastle and Sussex had been students wanting mini versions of the poster, he added.

PARTY LINE

Shows improvement: an end of term report

Hermondey that a vote the next day for Mr Peter Tatchell was one which was most consistent with the voters' demands and aspirations of their daily lives.

However, a slight temporary consolation even in this result - it could not, in any circumstances, get worse. But of course it did, with the General Election campaign. For the observer, Labour's performance was excruciating to perceive. For the participant, it was a living, lingering nightmare, that for me became so appalling that, for the last week of the campaign, I refused to watch the television, listen to the news or read a national newspaper. I just prayed hard that the people of Blackburn would do the maps. By a miracle, enough of them did so, and, thank the Lord, I held the seat. "Won" would be the wrong word, since by June 10 I had decided that my *Shoreline* (the Hindu term for me) was to have a walk-on part in the tragedy of the slow death of a socialist party.

For my very first surprise, it didn't happen. The rest of the play seems to have been cancelled. Labour's leadership contest was a model of how people should behave. The issues were discussed. None of the candidates got in the gutter, or anywhere near it. Since the Brighton conference - and especially since Pashangat returned - the Labour Party has got its act together. There are still a few areas to be comradely depressed about, but the pollen has gone out of the arguments. The weekly round Thursday evening's Parliamentary Labour Party meeting have been replaced by more relaxed discussion on Wednesday mornings. Above all, for the first time since I was elected, the PLP feels like an organization with a future, with a sense of direction and leadership. All this does not mean that the best election in the history of the PLP. But it does mean that it is a hope. And that is a mighty relief.

As for the Tory Party, I can only describe its condition as in the early stages of a nervous breakdown. Even though the gap has narrowed, they are still ahead in the polls. Even though Labour is internally more united, they still have the godsend of an opposition divided between us and the Alliance. Despite this, they often behave as if it was they who lost the general election, and have just suffered a string of by-election defeats as well. What their condition will be when they do start losing seats defies the imagination. Some of their wiser spirits - of whom John Biffen is, in my view, the wisest - do understand that in politics what goes up has, in the end, to come down; that, in English, Powell's phrase, all political lives and in falling; that in the nature of human affairs. But many in the Conservative Party do not understand this - especially the new breed, whose political memory

Jack Straw

The author is Labour MP for Blackburn.

overseas news

Israeli universities
escape closure

from Benny Morris

JERUSALEM
The closure of Israel's universities was narrowly averted this week after the university heads agreed to a budget cut compromise in last-minute negotiations with the Prime Minister, Yitzhak Shamir, and the finance minister Yigal Cohen-Or.

In recent weeks the treasury, which provides some 70 per cent of the universities' funding, has withheld the regular budget instalments pending the universities' agreement to further budget cuts. Last summer the universities took a cut of 10 per cent in state funding.

In the absence of the state subsidies, most of Israel's six universities and the Weizmann Institute of Science were forced to take short-term high interest bank loans, further undermining their financial situation.

Immediately following the agreement the treasury handed the Council for Higher Education, which acts as intermediary between the government and the universities, about \$40-50m to tide them over the next few months.

In return the council's key planning and budget committee agreed to an 8 per cent cut in next year's state subsidy of the universities. The committee, headed by Professor Haim Harari, felt that these were the best terms it could extract from the government, which had originally demanded a further budget cut this year.

But the head of the universities

coordinating committee, the rector of Tel Aviv University, Professor Yoram Dinstein, said after the end of the talks that the extent of the next year's budget cuts still needed to be negotiated between the universities and the planning and budget committee. He emphasized that the universities had made no commitment to the conditions accepted by the committee.

The university heads are under pressure by the university employees' works committees and the student unions both of whom oppose the planned cuts.

An 8 per cent state subsidy cut of the university budgets will mean the dismissal of a further 1,200 staff members, or agreement across the board to accept reduced salaries, increases in tuition fees and cuts in grants to students.

The treasury recently proposed increasing student annual tuition fees from an average of \$550 to about \$1,000 which led to a one-day strike by the students.

University teachers have warned that they will strike if they are forced to take salary cuts. They contend that their salaries are in any case too low. A senior lecturer earns about \$700 per month net pay. But some critics have said that the lecturers get a great many under-the-table perks, which are also untaxed, such as \$300 per month in their sabbatical fund, free trips annually to scientific conferences and a taxi or car allowance.

Irish cuts plan is confirmed

from John Walshe

DUBLIN
Government plans to drastically curtail spending on higher education were confirmed with the publication of the 1984 estimates for the public service last week.

Although there are cuts planned throughout the public sector, third level colleges will be particularly badly hit. Among the measures proposed are:

● A 20 per cent increase in tuition fees for all students.

● Withdrawal of free medical cards from students.

● Virtually no increase in current or capital spending by universities and other colleges.

The 20 per cent rise will bring many university courses up around the IR£1,000 mark: only a third of Irish students are on grants or scholarships

at present. But there could be worse to come if the government goes ahead with a loans scheme as this will almost certainly be accompanied by further substantial fee rises.

The decision on medical cards will also badly affect students. At the moment the cards are available to students over 16 without means testing but in future will be allocated on the basis of overall family income.

The estimates provided little cheer for college authorities either. There was only a 1 per cent rise in current grants to universities, National Institutes for Higher Education, National College of Art and Design in Dublin and the Thomond College of Education in Limerick.

Within this budget the colleges will have to find money to pay for salary rises due to come on stream next year and for new staff whose appointments

will have to be sanctioned because of new developments. Inflation next year could be up around 7 or 8 per cent.

The capital provision is worse in some respects. There is a three per cent rise envisaged but practically all of the money allocated will be used for ongoing building projects.

The government still has to decide whether it will give the go ahead to a new engineering school at University College Dublin, a dental school in Trinity College Dublin and regional technical colleges in the greater Dublin area. All of these have been planned and promised but are now held up.

To compound staff and student fees further, the finance minister Mr Alan Dukes has warned that he is looking for additional savings to be made in time for the budget early next year.

Polish lecturers urged to
support expelled students

Polish university lecturers should not abandon students expelled on political grounds, urges a recent appeal in the underground Solidarity press.

This document, entitled *Normalizing the Normalization* gives useful hints to various sections of the population on how to maintain accepted standards under the alleged "normalization" which has succeeded martial law. During the martial law period, it was made mandatory for universities to expel students convicted of even such minor breaches of the emergency powers regulations as wearing a Solidarity badge or being seen in the vicinity of a demonstration. Although the rigours of these regulations allegedly came to an end when martial law was "repealed" on July 22, the tone of the document suggests that such expulsions are still taking place.

Accordingly, lecturers are urged to use the written and spoken word to fight on behalf of students who are expelled in this way and to try, whenever possible, to help them find a job. This is important, not simply to provide a means of livelihood, as under a new government drive, anyone without a proper job can be compulsorily assigned one - usually of a type for which there are few, if any, volunteers. Furthermore, the appeal maintains, lecturers are morally still responsible

for "developing the intellectual potential" of such voluntary "drop outs", and should continue to teach them, either privately, or in small study groups where the lecturers "would learn together with them." This last phrase is significant, since it suggests that under such circumstances the lecturers would not simply be teaching the state-approved university syllabus (for which presumably no extra study would be required on their part).

Small "self-help" study groups are an important feature of the "alternative society" urged by KOS, the grassroots underground Solidarity movement. By reading together and discussing those aspects of history, literature, sociology and economics not included in the official syllabus, participants carry on, in a modified form, the traditions of the "Flying University" of the pre-Solidarity period.

If this appeal is implemented - and there is more than sufficient evidence to suggest that it will be - "drop out classes" could well become the next stage in Poland's long tradition of underground education, whose "alumni" includes such eminent names as Maria Skłodowska (Madame Curie) in the last century and Pope John Paul II under the Nazi occupation.

German estimates rise

from Barbara Von Ow

MUNICH
There may be 1.6 million students in West Germany in the years 1990/91 if degree courses go on lasting an average of six years, according to new estimates presented at the cultural ministers' conference in Essen this month. In 1982 there were 1.2 million students at German universities, and so far the number has been predicted to rise to a maximum of 1.4 million at the turn of the decade.

According to the ministers' forecast, the number of young people eligible for higher education at universities or polytechnics will rise from 288,000 in 1982 to 307,000 in 1985. Only a decade later (1995) it will drop to 199,000 due to the slump in West Germany's birth rate. The number of new admissions will reach its peak in 1986 with up to 276,000 students. Only after 1990 it will recede to the 1982 level of 225,000

and fall to 192,000 by 1995. The figures are based on the assumption that an average of 82 per cent of school leavers will go on to higher education.

By 1988/89 there will be up to 1.47 million students at German universities, if the length of degree courses is not cut this trend will reach its climax in 1990/91 with up to 1.6 million students, including foreigners. The number of graduates leaving university with a finished degree will not reach its peak of 214,000 until 1991 and continue to remain very high until 1995, the ministers noted.

Meanwhile student numbers in East Germany are remaining stable around a level of 300,000, the Information Bureau West (IBW) reported in Berlin. In 1982, there were some 130,000 students at East Germany's 54 universities, and some 172,000 students at the country's 240 polytechnics, it said.

Harvard dons to set up
rival law publication

from E. Patrick McQuaid

CAMBRIDGE
Last year at this time student-editors at the prestigious *Harvard Law Review* took on their mentors in a bitter campaign to balance the ethnic makeup of its independent publishing board. While the students desire the consent of the senior teaching staff, the 90-member editorial board is autonomous and in the end approved a positive discrimination scheme which most of the dons found at variance with the traditional merit system of appointment.

The latest episode in this graduate school soap opera was aired recently during a meeting of the teaching staff. It began with the reading of an open letter to the staff from Professor Richard Stewart. "A substantial number of faculty here and at other leading law schools," he wrote, "believe that students are not the best judges of what constitutes the best scholarship."

The *Harvard Law Review* is published eight times annually under the management of student-editors since its founding in 1886. Traditionally, first-year students compete for seats on the publishing board based entirely on their grades while second-year students must also submit to a juried essay contest.

Mr Stewart proposed that the teaching staff publish its own law journal which would carry "lighter and shorter" articles from the staff. "Many contemporary law review articles are excessively long, tedious, and overly footnoted," he wrote.

Student editors said they would wel-

come the competition but questioned the staff's motives, noting that there exist ample outlets for professors and practicing attorneys to publish. At least one professor agreed and at that meeting told colleagues that the legal publishing market was already glutted.

In defending his proposal, Mr Stewart explained that while article selection and editing by students was in the past often done in close consultation with faculty members, little such consultation occurs now, at least at Harvard.

The president of the student journal, Mr Scott Nelson, a third-year student, said: "Given the penchant of law professors to write lengthy and heavily documented pieces, I don't think we will be at a loss for submissions."

Reports of the meeting are based on the release of Mr Stewart's letter and sources at the law school. The student daily newspaper summarized Mr Stewart's proposed options for a staff edited review as including:

● *Braceys*, lively pieces aimed at academics; livelier pieces intended for general consumption; a hybrid of the first two options; an in-house organ or a lawyer's version of the *Harvard Business Review*, aimed at practitioners.

The *Business Review* is published by the graduate business school in a magazine format and sold by subscription and at news-stands.

Mr Stewart prefers the first of these options and suggests that a dedicated core of 10 to 15 dons staff the proposed journal. There are about 70 lecturers at the law school.

Reagan aide
joins Harvard

CAMBRIDGE

The chief communications officer for the Reagan White House, who has served the last three Republican governments, has quit to accept a resident fellowship at Harvard University.

Though Mr David Gergen (above) has declined to comment on the decision close aides say his resignation follows confrontations with the president over press restrictions. In particular, they clashed over Mr Reagan's meddling in media coverage of the Grenada invasion and plans to test staff loyalty with lie detectors.

An undergraduate at Yale, Mr Gergen earned his law degree at Harvard and was a founding editor of the magazine *Public Opinion*. He was assistant speech writer for Mr Richard Nixon and attracted notoriety himself when embroiled in the controversy over last summer's disclosures that members of the Reagan campaign had purloined strategic notebooks from the office of then-president Jimmy Carter.

While Mr Gergen first denied knowledge of the alleged crib-sheets, which some claimed were used to prepare candidate Reagan for his prize-winning debate with the incumbent, he later said that related materials had surfaced in some of his old files.

At Harvard's Institute of Politics, a wing of the Kennedy School of Government, he will lecture and work on his own writing. He is to maintain an office in Washington with the American Enterprise Institute.

Patrick Knight reports from Brazil on how students are rejecting 'meal ticket' courses in the face of massive unemployment

There has been a radical change in Brazilian students' priorities in recent years, with a sharp decline in demand for courses in most exact sciences, and an only slightly less sharp rise in demand for courses in the humanities. The exception to this trend is the demand for places on mathematics and computing sciences; where there have been up to 100 candidates for each place at the very best schools, notably at Sao Paulo University, with an average of more than 20 students for each place on one of the 36 computing science courses.

There are now 40,000 unemployed engineers and 12,000 unemployed doctors (10 per cent of the total number of doctors in Brazil) and many architects and graduates in other disciplines

Studying for the sake of study

There has been a 50 per cent fall in demand for architecture places in Rio and 35 per cent fall in Sao Paulo, and a 12 per cent fall in demand for places in the faculty of medicine in Rio de Janeiro; also a 7 per cent drop in Sao Paulo.

"Demand for places on the mathematics courses has risen by 38 per cent in Rio, 97 per cent in Sao Paulo, and 12 per cent in Rio de Janeiro," says a report by the Ministry of Education. Other humanities courses such as teaching, philosophy, economics and social communication

which includes journalism and public relations, have also experienced large rises in demand this year, although job prospects in the markets for these disciplines are certainly no better than for the exact sciences.

The alteration in priorities, and the reduction in demand for places in the universities, has brought about fundamental changes in the characteristics of the huge number of privately-run schools, which make it difficult to prepare students for the entrance exams, such one competing to get the larger population of successful, and to obtain most students, who pay high

fees for the privilege of standing a better chance of getting a place. The best of these schools, which are massive businesses, employing dozens of full time staff, and as large as some universities, have managed to maintain their numbers, by investing massively in things like computers. The largest of the Sao Paulo school, Objetivo, founded 14 years ago, when the boom in demand for higher education in Brazil got under way, and which now boasts facilities of its own, has invested \$700,000 in computing equipment this year.

It has also opened new premises around the city, in an attempt to reduce costs for students who previously had to make the trek to one central point.

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overseas news

Michael Rhum reports from the annual meeting of the American Anthropological Association

Crisis of
intellect
and cash

from Michael Rhum

CHICAGO

American anthropologists are anxious and with good cause. There are more anthropologists out of work than in any other field of scholarship in the United States. At the recent meeting of the American Anthropological Association in private conversations and at business meetings the talk was of jobs and money, or more precisely, the lack of both.

The feeling shared by most of the 3,000 anthropologists who assembled here in Chicago was that in a time of retrenchment and belt-tightening the outside world has grown tired of the discipline's institutionalized intellectual crisis. What anthropologists have always found stimulating and challenging, those on the outside find incomprehensible and dull. And with less money to go around those in positions of budgeting-authority are starting to balk at footing the bill any longer.

Alarming statistics illustrate the trend: last year 139 members of anthropology teaching staffs at American universities quit their jobs and a mere 57 were hired to replace them. The average anthropology department in the United States is today 13 per cent smaller than it was in 1981.

Association members voted to restore the AAA, partly in order to preserve the organization's tax exempt status and partly in the hopes of getting it into fighting trim to face the crisis. It will now be made up of several sub-units representing the sub-fields of archaeology, biological anthropology, linguistic anthropology, practising (applied) anthropology and general anthropology. Representatives of these sections will comprise the board of directors.

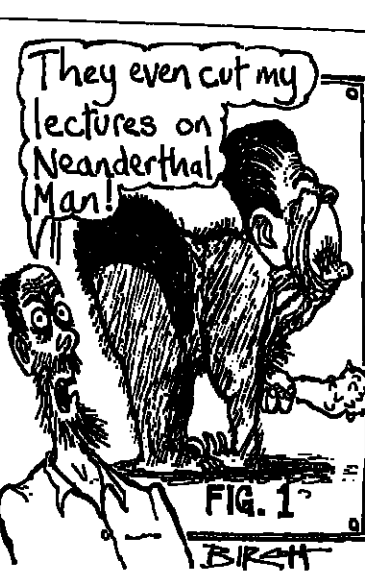
Unfortunately, the Society for Applied Anthropology, the American Association of Physical Anthropologists, and the Society for American Archaeology have so far declined to merge with the AAA. Applied and physical anthropologists and archaeologists who support the move have thus been forced to create new bodies within the AAA and it is not at all clear whether this will unify or further fragment the discipline.

It was clear at the organization meeting of the section for general anthropology, chaired by Professor Bill Hymes, the outgoing president of the AAA, is that anthropologists are worried. The section for general anthropology was being created to accommodate those anthropologists who do not care to affiliate with any other sub-disciplinary organizations.

The anthropologists who attended the general anthropology meeting were more concerned with their subjects' fate in the world than the organization's fate in the AAA. Discussion turned around anthropology's image. Horror stories of public misperception and unsympathetic treatment by "academic" higher-ups abounded, especially at public universities where the departments come under closer government scrutiny. A professor at one Midwestern public university told of pressure being put on his department to merge with the sociology department. Anthropology had two undergraduate majors to sociology's 80.

Nonetheless, there was the strong feeling that anthropology has a great deal to offer, if only it could get the word out. It is, however, a sensitive point of view. United States foreign policy is made with no sensitivity of knowledge of foreign cultures, with the American public's ignorance of the world's nations as appalling. It is not unusual to find undergraduates who cannot name two African countries.

The general anthropology group concluded that a public relations campaign was called for.



As steps in dealing with the problem of jobs for young anthropologists the Marxists supported two resolutions at the general session - the creation of a task force to examine the trend toward increased use of part-time adjunct teachers at universities, and creation of unpaid research associateships at universities to give unemployed anthropologists a chance to be eligible for grants that require institutional affiliation. Both resolutions were passed unanimously.

Meanwhile, the Marxist group has problems of its own. While they seem to have won the battle to be taken seriously in anthropology, they seem to have as much trouble as ever hanging on to their jobs. Since many of them are young junior faculty and since the contraction of anthropology departments is seen particularly in the loss of junior positions, many of them feel particularly vulnerable. (Assistant professors and instructors now make up 29 per cent of the teaching staff, as opposed to 35 per cent in 1980.) The dismissal of the politically troublesome - and more often the quiet expirations of their contracts - still goes on. Several participants in the meeting spoke from experience about university administrations putting political pressure on them. They keep their mailing list secret and call paranoia "reasonable caution".

If social anthropology has a problem with public recognition, archaeology and biological anthropology - stones and bones - have always had a place in the public eye. Biological anthropology in particular is moving in on some of social anthropology's territory with new developments in behavioural biology. The reorganized AAA may see the archaeologists and biological anthropologists flexing their newfound muscles.

Anthropologists were also taking to the political barricades in defence of natural selection and Darwinian evolution. These have been subject to attack from Christian fundamentalists who have been surprisingly successful at having them reduced to "one theory among many" in high school biology texts. Equal time is now being given to creationism. At the business meeting the AAA unanimously passed a resolution urging publishers to give "evolution a central place in biology textbooks." The AAA has also prepared an anti-creationism bibliography and produced a film refuting so-called scientific creationism.

The AAA's political activism did not end there. The business meeting went on to pass resolutions deploring the oppression of tribal minorities and assassination of Benigno A. Aquino in the Philippines, and the US invasion of Grenada. The AAA also came within a hair's breadth of endorsing American unilateral nuclear disarmament. After some rather tumultuous discussion a motion calling on the US to halt deployment of the Pershing and Cruise missiles, and to dismantle its existing nuclear arsenal was passed after an amendment had been added to have the AAA ask its colleagues in the USSR to make a similar request of their government.

At the annual meeting of the American Anthropological Association, Michael Rhum reports from the annual meeting of the American Anthropological Association. The meeting was held in Chicago and was attended by 3,000 anthropologists. The meeting was a time of crisis for the discipline, with many anthropologists out of work and the discipline's institutionalized intellectual crisis being a topic of discussion. The meeting was a time of crisis for the discipline, with many anthropologists out of work and the discipline's institutionalized intellectual crisis being a topic of discussion.

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Postgrads 'slower than UK'

from Geoff Maslen

MELBOURNE

Australian postgraduate students take much longer to complete their research degrees than their UK counterparts, according to investigations conducted by academics at the University of New South Wales. So much so, in fact, that the academics say there is an urgent need for a national inquiry into the low productivity of Australian universities.

A paper published by the university's Tertiary Education Research Centre, shows that only 28 per cent of Commonwealth postgraduate award holders complete a thesis by the end of the fourth year of registration, compared with 52 per cent in Britain.

If a time limit of six years is set, fewer than half of Australian postgraduate award holders submit a doctoral thesis within four years, compared with two out of three in the UK. Students completing masters degrees are similarly tardy - with only about half receiving their degree within six years of starting.

According to one of the authors of the TERC study, Mr Douglas Magin,

the basic problem appears to be that Australian students regard a four year course of study for a doctoral thesis as normal, rather than three. Students also underestimated the work required for the research and the difficulties which could cause delay.

Mr Magin said the Australian study followed the Swinerton-Dyer report on postgraduate research which was tabled in the House of Commons in 1982. In the Commonwealth study, a comparison was made between a 1982 survey by the Australian department of education and an earlier study conducted in 1976. This showed that the proportion of Commonwealth postgraduate award holders not completing their degrees rose from 11 per cent to 17 per cent for PhD candidates, and from 22 per cent to 37 per cent for research masters candidates.

Mr Magin said that students surveyed had often expressed difficulties with a shortage of equipment and facilities which led to delays, and had also found problems in getting technical assistance from support staff. Many postgraduate students had questioned whether these staff saw their role as solely helping the academic staff.

been thoroughly explored in Australia. He said that individual universities needed to undertake critical reviews of research degree productivity to identify those departments with poor records and to implement procedures to accelerate completion time. No national compilation of this data had ever been undertaken and this was long overdue.

The TERC had recommended that the funding formula should be changed and a maximum of four years full-time set to complete a PhD and two years full-time for a masters degree. An analysis of students at the University of New South Wales had shown that, on average, full-time doctoral candidates took just over five years to complete their degree, while full-time research masters students took an average of under four years.

Mr Magin said that students surveyed had often expressed difficulties with a shortage of equipment and facilities which led to delays, and had also found problems in getting technical assistance from support staff. Many postgraduate students had questioned whether these staff saw their role as solely helping the academic staff.

Nuclear power eradicates Mediterranean fly

Egypt is about to deploy a peaceful nuclear weapon intended to eradicate the Mediterranean fruit fly, an important deterrent to food production regarding nutrition and public health standards in the country. The \$19.3m project will start with the construction of a network of facilities for the rearing and release of billions of irradiated insects. The scheme is to reduce Egypt's dependence on conventional pesticides.

The project springs from an important recent symposium on the use of radiation in genetic insect control, held near Munich under the joint auspices of the IAEA and the UN's Food and Agriculture Organization (FAO).

The process has attracted the attention of scientists in many countries because it offers a way to insect control bypassing the health hazards and prohibitive energy costs involved in the production of conventional pesticides. The Medfly infests citrus and stone fruit in all farming areas of Egypt and severely restricts the expansion of food production.

Sterile insect release projects against the Medfly have already eradicated the insect from the Italian islands of Procida and Capri, and controlled it over large areas of Central America.

President
quits in
heated row

Unable to pay its utility bills, the heat was turned off at Flak University, Nashville, Tennessee, during October. With the heat back on, the president, Mr Walter Leonard, delivered an especially cold letter of resignation to the university's committee of trustees.

Unpaid fuel bills totalling \$170,000 since last winter were only the latest in a series of problems the predominantly black institution has faced during the last two decades. Debts are reported at nearly \$3m a sum equal to the university's dwindling endowment. Mr Leonard has been president since 1977 and in his letter to trustees he noted that the school's endowment was \$14m just ten years before he took office and the administration made the error of using those funds to meet routine obligations.

Mr Leonard also noted that potential benefactors have indicated that they are reluctant to contribute to the school's massive fund drive while he is in charge. "We shall remove that excuse or reason", he said.

Traditionally, American schools use only the earnings from endowment investments to pay their bills. Flak also owes huge water and sewage payments but has negotiated repayments by instalments. The university also owes the Internal Revenue Service some \$50,000 it has withheld in employee wage-taxes but used to meet routine maintenance.

After two weeks without heat, Flak raised about \$50,000 from local donors and the Nashville Gas Company restored the service on good faith that the bills would eventually be met. Trustees hope to raise enough money to pay off the school's estimated debts of \$2.8m and build an endowment of a hopeful \$25m.

Enromenis at Flak were a healthy 1,150 when Mr Leonard took office. Last term they were reported at 700 students.

THE TIDE OF OPINION

64... contains a wealth of information... invaluable working tool... fascinating reference book for students as well as for the laymen. J. Jacques Courteau

64It goes further - is more comprehensive - than anything so far published. J. Claire Francis

64It helps laymen such as ourselves who go down to the sea in ships understand a lot more of our chosen environment. J. Cheryl Blyth

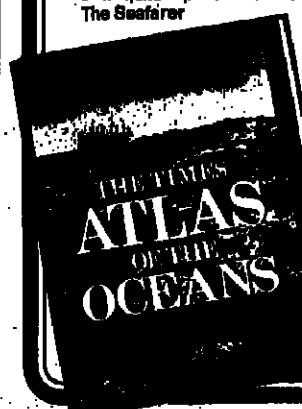
64Almost any atlas is a spur to the imagination, but none of recent years can rival the sheer stunning imaginative sweep of *The Times Atlas of the Oceans*. J. House & Garden

64The illustrations are quite excellent and I am sure this will become a fundamental reference for those who are connected with the sea and essential reading for those who seek to learn about it. J. Fleet Admiral Sandy Woodward

64... a difficult book to review without becoming relentless and piling superlative onto superlative... all this complex subject matter is conveyed visually with great simplicity, stylishness, and sometimes beauty. J. The Telegraph, Journal of the Merchant Navy and Airline Officers' Association

64... quite splendid... first class achievement. J. The Spectator

64It is a rare book... that leaves you breathless. The authors of this comprehensive survey of the marine world are to be congratulated on capturing, yet making manageable, the vastness and complexity of ocean study. J. Library Journal

THE TIMES ATLAS
OF THE OCEANS

From all good bookshops at £30
Times Books, 18 Golden Square, London, W1.

Cover story David Berry reports on changing trends in sales of books to students

"There's been a striking change in the kind of books we're selling to students these days. In many subjects, students are concentrating on safe textbooks rather than new research or exciting, additional reading."

That could have been said by anyone of the dozen booksellers *The THES* spoke to last week, prompted by a *Bookseller* report that academic sales were recovering from the last few years, if only barely. In fact it came from Toff Leonard, manager of the Leeds University Union Bookshop who is decidedly *persona non grata* in the close-knit world of academic bookselling. His shop celebrates its tenth anniversary this month by announcing a healthy turnover figure of £250,000 per annum.

Academic bookselling has changed dramatically in the last 20 years. The image of the local college bookseller, a cultured gentleman who knew more about Baudelaire than balance sheets is no longer relevant. Apart from the W. H. Smith and John Menzies chains, academic bookshops are the most centralized outlets in the book trade. More than 75 per cent of sales come from just three companies: University Bookshops Oxford (UBO) owned by the Blackwell family group, Pentos the large Midlands conglomerate, originally in engineering, and W. H. Smith through its Bowes and Bowes shops.

The economics of the trade are that a very large stock is needed and demanded by the local academic community. Blackwells in Oxford has 200,000 titles in stock, smaller shops need at least 10,000 and will deal with 500 regular publishers and up to 10,000 occasional suppliers. Leonard estimates that they need to turn stock over three times a year to make a profit—a general bookshop will aim at five. All this means large capital investment.

John Taylor is group manager of Bowes and Bowes: "The advantages of belonging to a group

are that you get a lot of advice from other managers, facilities like sales and distribution can be centralized and that better terms can be extracted from suppliers." Once a shop covers its large costs, profits accrue very fast.

In 1953, W. H. Smith bought the original Bowes and Bowes shop in Cambridge. They used the name for several of their shops in the new universities in the 1960s—from Hull to Southampton. Pentos acquired the Hudson's shops in the West Midlands in 1971 and then bought Dillons in 1977. Blackwells and Oxford University Press set up UBO in the late 1960s. Now they have a controlling interest in Georges shops in the South West, Parrys in Liverpool, Lears in Wales and in University and town shops from Dundee to Reading. But unlike their W. H. Smith or John Menzies counterparts, most individual shops have considerable autonomy: each shop in the Blackwells group (OUP dropped out last year) has its own board of directors. And their links with each other are rarely known outside the booktrade.

The *Booksellers Association* estimate that UK bookshops sold £750m of books last year. They do not know how much of this is from academic shops (there is little breakdown of sales figures available) but trade sources suggest that this is at least £100m with UBO alone doing £70m. In only two towns, Cambridge and London, is there any serious competition between academic shops owned by different companies and while the "service" arguments for monopoly are strong, so also is the sense that academic bookselling is a lucrative market.

It was into this world that Leonard and his colleagues innocently stepped in 1973 and it has taken them ten years to start looking like a serious competitor to the Austick brothers who have a virtual monopoly on bookselling in Leeds. At that time, the Leeds University students union was

looking at how they could expand the services they were operating. Leeds had developed spectacularly as a student centre in the 1960s and Leonard felt that the official campus shop, Austicks, was missing out on some of the potential market, particularly in the social sciences.

The LNU shop started with £10,000 from the union and became a specialist shop offering the newer kind of arts and social studies books then being read. Slowly they have expanded, eventually stocking science and technology and recently modern languages imported from abroad. It took several years for the shop to be accepted as *bona fide* by publishers and they have been turned down several times when applying to join the Booksellers Association.

Leonard said: "They see us as a major threat. Originally they thought we would just sell textbooks, the lucrative part of the business and only open at the start of term. Then they thought we would break the Net Book Agreement (an arrangement where bookshops agree only to sell books at the published price). We've never done this. Now they say we don't pay commercial rates but I'd be surprised if the university-owned bookshops do and they're members. They think we're unfair competition to Austicks but surely in a town of 35,000 students competition is good".

The Booksellers Association had no comment to make. But several booksellers *The THES* spoke to argued that the results of this kind of competition would mean a much more restricted provision of books, arguments that Leonard disputes.

The feeling of these booksellers is that if the textbook and library supply market becomes divided, the profits from sales will go dramatically down forcing them to stop stocking the wide range of new books that don't make money but contribute to local literary culture and academic

life. Richard Hillier from Blackwells in Oxford said: "Students aren't buying books for pleasure these days but selecting titles for serious study".

John Blogg from Lears in Cardiff, said: "Inflation has hit students hard and my impression is that there is much less general reading going on".

And John Taylor said: "We're just not selling the academic monograph any more. People are much less interested in reading around the subject".

Hillier cites library business and fewer privately-funded students as the reason. For Blogg, in the demise of foreign students, Leonard suggests that the real concern is in the cuts in postgraduate students. "These students at Leeds often encouraged undergraduates to read more adventurous stuff and would themselves buy a lot of new material."

Many managers and publishers echoed these views. But while most of the academic booksellers felt that they were reflecting lack of academic demand for a wide range of books, Leonard thinks that the trade must share some of the blame. He quotes a recent survey of book-buying which indicates that over 50 per cent of academic sales are not planned in advance. "If you have an enthusiastic staff working in a non-hierarchical way, you can run an academic shop that encourages people to buy a whole range of books and continually draws attention to the wide-range of material being published."

Inevitably there are differences between a commercial operation and academic desires. Rachel Evans and Jack Meadows have just finished a report on "Bookselling in Higher Education" which will be available from the British Library next year. They conclude that a lot more liaison between town and academic is desirable and necessary in the next few years.

In America the National Bureau of Economic Research is widely accepted as the premier economic think tank. Under the guidance of Professor Martin Feldstein it built up a reputation for analysis and material on economic problems that few from the lowest State Department official to the most senior White House aide ignore. President Reagan plucked Feldstein out to be chairman of his council of economic ministers, though currently he is the duck for remarks that the \$200 billion US deficit is still out of control.

One of the reasons for the NBER's success is that it has done away with the kind of permanent academic corps in favour of becoming male and out of touch. Since 1977 Feldstein has transformed it from being another in-house research institute into an "economics multiversity", drawing in academics from the full range of top research and higher education institutions. They join the bureau as associate fellows on fixed terms, while retaining their permanent posts elsewhere, thus ensuring that the NBER constantly benefits from new faces and new ideas.

Now an American economist, a confirmed Anglophile, is using the same principle to found an economic centre in Britain that he hopes will eventually hold the same kind of sway over Whitehall, Westminster and the City.

Professor Richard Portes, brought up in Chicago and educated at Yale, came to Britain as a Rhodes scholar to Balliol College, Oxford in 1962. There he fell under the influence of Lord Balogh, sharing his fascination with the British way of thinking.

Portes became very interested in the Common Economics, making his name with work on decentralization of the Hungarian economy. After teaching at Balliol and Princeton he became professor of economics at Birkbeck College, London, in 1971, and later head of the department of economics there. Energetic, highly motivated, with the sort of enthusiasm that Americans in Britain seem to share, he still has a part-time post in Paris, and unsurprisingly is one of the NBER's few foreign associate fellows.

Portes believes that while the impact of international trade and capital flows on the British economy has increased enormously since 1945, there has not been a corresponding increase in research on what economists call the problems of the "open economy".

Portes is also keen to see the country that produced Adam Smith, James and John Stuart Mill, Ricardo, and Keynes, regain what he terms the "leadership of the economics profession". Since the 1940s this has rested on the other side of the Atlantic, he says, with people like Arrow, Tobin, Samuelson, Friedman, Modigliani, Leontief, and Klein.

With some hard bargaining, Portes managed to complete efforts worth £750,000 for a "core" building for the next few years with

Thinkers start figuring it out

The Centre of Economic Policy Research hopes to hold sway over Whitehall, Westminster and the City. Paul Flather talks to some of the academics founding it.



Professor Portes at the centre: 'energetic, highly-motivated and exuberant'

contributions from the Bank of England and the Social Science Research Council (the leading supporter with £300,000 pledged over five years), merchant bankers Morgan Grenfell, *The Financial Times*, and the Esme Fairbairn Foundation, and the Rockefeller Foundation, both charitable bodies.

He knows he needs more, but nevertheless the Centre for Economic Policy Research has now opened for business in a suite of off Piccadilly Circus, adjacent to the Royal Institute of International Affairs, Chatham House, in St James's Square. The two will be keeping close ties, sharing library and other facilities, and running joint events. The CEPR has already run two exploratory workshops for invited experts on international macroeconomics and trade, and will run two more next month.

A formidable array of supporters has been assembled to sit on its board of governors, including Sir Douglas West, former head of the Treasury, current chairman, Professors James Meade and Frank Hahn from Cambridge, Professor James Ball, head of the London Business School, Professor Amartya Sen and Dr Christopher Bliss of Oxford, Mr Jeremy Harbord, deputy chairman of the Monopolies Commission, and Mr David Wall and

Admiral Sir James Eberie, retiring and succeeding directors of Chatham House.

Other supporters have spoken out in favour of the centre. Professor Ralf Dahrendorf, director of the London School of Economics, who was involved in unsuccessful attempts to create a British Brookings Institution during the 1970s, believes it could help fill a gap in British medium-term economic thinking far wider than in comparable European nations. Mr Michael Kaspi, reader in economics at St Antony's College, Oxford, believes it could encourage the kind of concerted, international approach now needed to tackle world economic issues.

The heart of the centre will be 40 to 50 research fellows drawn mainly from the universities, and divided into four teams, each working on a main research programme. Each is being appointed on two-year terms that are renewable, and in the style of the NBER each will retain his or her academic base. The programme director and some 20 fellows have already been selected.

Professor William Butler who took over Sir Alan Walters' chair at the LSE as leading the international macroeconomics programme, looking at issues like the international debt, and

exchange rate misalignments. It was Butler aged 34 to whom the Commons Treasury Select Committee turned when seeking an expert on exchange rate policy.

The international trade programme looking into trade patterns, comparative trade issues, the so-called oligopoly "game" fought between the EEC, the US, and Japan, is under Professor Peter Neary of University College, Dublin. Neary, who has researched the effects of North Sea Oil on the economy, has had a meteoric rise up the academic ladder, and is still just 32.

Professors Oliver Hart of the LSE and Grayham Mizon of Southampton are in charge of the applied economic theory and econometrics programme looking for example at investment theory, relative price effects, and international comparisons of tax policies. Hart, 35, is very interested in the costs of inflation, while Mizon, aged 41, is an econometricist interested in productivity and applied issues.

The final programme, human resources since 1900, is to allow long-term consideration of issues such as labour mobility, ageing, technological change, demographic "shifts". It is headed by Professor Roger Gordon Floud from Blackwell and Barry Squire from Cambridge. Squire, the writers establish, on British economic growth,

while Floud, who is 40, has held pioneer econometric history.

As evident, there will be a strong accent on youth, with perhaps a third of the fellows aged under 35, and Portes is also keen for the centre to help pioneer the evolving micro-technology for economic computing. Mr Stephen Yeo, the administrative director, believes software developments over the next few years will enable economists in particular to forge ahead in computing work saving weeks of calculation time.

The main task however will be to produce research and policy ideas, presented and designed to be helpful to policy-makers and government, incorporating fully the international dimension. Older Keynesian textbooks, it is pointed out, only bring in the impact of imports and exports on national income at a secondary stage. Yet imports and exports now account for around a third of UK Gross National Product, and the economy is continually buffeted by international winds, forcing devaluation in 1967, leading to a floating pound, fuelling inflation after the OPEC oil rise, bringing in the IMF in 1976, and so on.

Jan Byatt deputy chief economic adviser at the Treasury, for example believes economic policy making in the 1970s would have been much easier if more "open economy" knowledge in this area was readily available. The world is changing rapidly and the centre can I think fill a real gap in British economic thinking.

As ever the other institutes are watching warily as a new member arrives to join the club particularly with its new "out-house" approach. The clear-cut nature of CEPR's brief has however soothed any worries that the likes of the Policy Studies Institute on Chatham House or the Institute for Fiscal Studies might have had.

Funding still remains very much a problem. The CEPR has no funding apart from a kind of enterprise Portes was emulating the NBER, the five publicly-funded German Institutes, or the research centres in Brussels, Paris or Florence.

He has no doubt about some of the highly topical problems that need studying: public investment policy, the role of the city financial markets, Britain's international role, long term public expenditure commitments. He believes Britain still has a worldwide lead in macro-economic policy formulation.

Economists generally suffer from a pretty bad press. If successful, the CEPR approach must help. As its first bulletin puts it the research priorities will be to improve the functioning of the British and international economies. The aim is not, it states, to "wield superficial applicability" or "usefulness". In economic development leading to the right policy then to specify the policy itself.

What are universities and colleges doing to combat sexual and racial discrimination? Olga Wojtas and Felicity Jones (below) look at two separate attempts to improve matters

Hidden prejudices brought to the fore

A letter to *The THES* last month from a senior lecturer at London University described Professor Laurie Taylor's column as "celebrating the male rituals of academic life". Women in the column, the writer suggested, were more likely to be wives and secretaries than academics.

An Exeter University lecturer was quick to claim the week after that in fact the majority of regularly-appearing characters were female—no definitive reply has yet come from Professor Taylor.

But if the picture he gives is of an egalitarian academic world, it is a totally inaccurate one. Only 14 per cent of lecturers in Britain are female, and the figure drops to 12 per cent at reader and senior lecturer level. And if Professors Dreyfus and Swinflet are indeed women, they are members of a select band of only three per cent of professorial staff.

This obvious imbalance is gradually coming to be questioned. Are women themselves choosing not to come into higher education? Or does the present system militate against them in some way? There is an increasing pressure from women employed in higher education for an investigation of the issues involved.

The Association of University Teachers has established a committee to examine the position of women in universities. A women's group at Aston University has received money from the Equal Opportunities Commission to produce an equal opportunities code of practice. It is hoped to form a similar group at the New University of Ulster.

But the institution most obviously taking equal opportunities seriously at the highest level is Strathclyde University. Its principal, Dr Graham Hills, has been instrumental in the setting up of a steering board for opportunities for women in the university.

"I think like a lot of people I simply

noticed the imbalance between the number of men and women students in certain areas," he says. The imbalance is particularly marked in a technological institution such as Strathclyde and Dr Hills believes it is vital to find out how far teaching in schools and higher education is responsible.

He was greatly impressed by positive discrimination programmes he saw on American campuses. "Some very attractive material is being promoted to persuade girls to edge their way into technology. It may well be that it has been taught by men for men for so long that we forget how it came to be that way."

Strathclyde has already launched its own "Insight into engineering" course, which has been running for two years to encourage schoolgirls to consider engineering as a career.

Dr Hills is also very conscious that the low numbers of women are not confined to students. "The university is mainly in the hands of men. This is not our wish and I think we must be aware that we could do things a little differently and a lot better."

In fact, Strathclyde has only one woman professor, Angela Bowey of the university's business school, who is regional commissioner for the Equal Opportunities Commission in Scotland. "Women's equality and women's opportunities are a major issue in this country in all spheres of life, but there is no higher education institution which is a centre of excellence in this field," she says.

"The only source is the EOC, which is a quango with a very specific remit to improve opportunities for women: it assists teaching, but doesn't itself teach, it sponsors research, but doesn't itself research. We now have a new piece of legislation providing equal pay for work of equal value, but most people have no idea what it means, and many people are frightened of it. Who can they call on for help?"



Caroline Bamford: "Women's courses are still seen as marginal"

It may be that Strathclyde itself will become a centre of excellence in the field of equal opportunities. The steering board has taken the first step towards examining Strathclyde's own practices by appointing Dr Caroline Bamford to research ways of improving opportunities for women within the university.

Dr Bamford, who took up her post this month, is to investigate Strathclyde's employment pattern, promotion procedures and the career aspirations of women staff. Her remit also includes looking at the ratio of female and male students in all the university's courses, examining applications, admissions and final grades.

Dr Bamford has been tutoring an Open University course, which began

last year, on the changing experiences of women. The interdisciplinary course covers a wide variety of topics including biology, education, work, sexuality, literature and the family. Scottish applications for the course doubled after the first year.

Dr Bamford has also taught a sociology department course in women's studies at Edinburgh University and a course funded by the Manpower Services Commission for women who have been at home for two years and wish to enter the labour market. Following only one advertisement for the MSC course, more than 300 women applied for its 12 places.

"There is a fantastic interest in women's studies, but very few arenas where it can be pursued," says Dr

Bamford. "Women's courses are still seen as marginal."

She hopes a women's studies course will be established at Strathclyde, and would also like to convene groups of women throughout the university to discuss the difficulties they face and what improvements could be made. She stresses that she will be researching the position of all women in the university: academics, students, administrative and ancillary staff.

Dr Bamford believes that certain problems are shared by women in all areas. Very many combine paid work with caring for children and dependents, and she intends to carry out a survey of staff members' domestic responsibilities.

"The argument that opportunities for women are there and they only have to take them up is invalid as long as women are left with all these other responsibilities," she says. There is a pervasive ideology that a woman is primarily a housewife and mother, says Dr Bamford, which not only affects women's own attitudes towards their work, but employers' attitudes towards female staff.

"Heads of department might have assumptions about the kind of jobs women should do, for example being directors of studies rather than having administrative jobs, although administrative work might be better for promotion prospects."

Dr Bamford is in favour of positive discrimination for women. "I don't see any other way to get women into areas which are male preserves. Schools encourage girls to do particular courses which then mean they are not eligible for entry to subjects such as engineering. Perhaps science and technology departments could run conversion courses in basic subjects for girls without the usual qualifications."

She would like to involve the university unions in a positive discrimination campaign since she feels staffing too would benefit—at present there is only one female academic in engineering. "I'm bound to meet with resistance, and I don't think any of this will happen easily," she concedes. "But I've got a head start because the university has committed itself to furthering opportunities for women."

At the root of the problem



Access courses provide another chance

century Caribbean revolutions with the French and American revolutions which feature in all relevant history courses.

It is so easy as it may sound, says Miranda Hyslop, because of the prevalent view that black people are somehow incapable of understanding. She has come across a surprising degree of hostility and has become used to adult education institutes ringing up and saying that nobody is attending a black tutor's classes only to discover that this was not the case when checked out.

The most success has been on the social and community studies side of the university's extra-curricular programme with the positive help of Jane Hoy, who administers the social studies programme. This cooperation is typified by the multi-centred community studies courses run mainly but not exclusively for people employed in the public services in social work, health visiting and the police.

The course started three years ago as a discussion group with voluntary literacy tutors who happened to be black and used a week-a-particular culture was set aside and discussed.

The course has now evolved and shifted away from examining each ethnic grouping as some exotic, remote culture to looking at the ways in which racism has developed historically and the patterns of immigration.

Two pilot courses for a certificate and a diploma in anthropology are being tested at the moment. They look at the relationship between anthropology and colonization and it is hoped they will be validated in the new year.

Another innovation has been the development, with the support of the Commission for Racial Equality, of an in-service training course for Asian community workers to look specifically at race issues. Most Asians tend to be lumped together, ignoring class and class, and the course explores the community workers' attitudes to each other.

Miranda Hyslop's time is spent largely with individual tutors who teach the courses to see how they can try and overcome the hidden racism. She believes that the employment of more black tutors is one way forward and the department experimented successfully with advertising for teachers in black community newspapers. Day schools and courses have been run for part-time tutors, both black and white, to explore their own attitudes.

A nine-part course for part-time tutors in Caribbean literature was run by the university using Jocelyn Barrow, a West Indian research fellow in the department of comparative education at the Institute of Education, as the tutor. The tutors had expressed an interest in learning more about black literature at a weekend course at Royal Holloway College. They looked at the socio-political writings of C. L. R. James in his book *Beyond the Boundary*, the poetry of Linton Kwesi Johnson and the dramatist Mustapha Matura.

In many respects the work being developed at the university reflects the direction suggested by the Advisory Council for Adult and Continuing Education's report *Adult Education and the Black Communities*. The report concluded that adult education concentrated on basic literacy needs to the exclusion of other areas.

It detected a monolithic view of ethnic minority needs which did not mirror the linguistic, religious and cultural complexities of these communities. There was lack of consultation with the black communities compounded by the employment of too few black tutors.

The report found that most minority commu-

nities wanted more vocational-oriented education rather than the traditional, hobby type course. It said the current provision concentrated too much on English as a second language courses which in themselves were too often seen as fringe activities.

Dr Jagdish Gundara at the Institute of Education, a co-author of the ACACE report, sees it, the first to look at adult education in relation to the ethnic minorities, as only a starting point.

He points out that for many black people in this country who have been let down by early schooling, adult education is the last chance to make up that lost ground and that on the whole the provision is woefully inadequate. There is, he believes, something inherently degrading in the current provision of higher education, which stresses English as a second language but ignores Hindi which is a major modern language with as much claim as French or Italian.

Even English as a second language has failed a significant proportion of those it has set out to help. Dr Gundara pointed to some of Caribbean origin who speak perhaps a broad *patois* and have difficulty with standard English. Apart from the odd isolated experiment such as the Caribbean communication project set up by Yvonne Collymore in London, which has trained tutors in the specific needs of the West Indians, little has been done.

The ACACE report did not look at university extra-mural work but concentrated on basic education and fell into the time-worn trap, it could be argued, of thinking of black people's needs in terms of remedial instead of higher levels of education. "There is again an assumption that black students do not go to universities so that the report reinforces what everyone thinks," says Miranda Hyslop.

But that is not to say that many of the same problems do not exist for university departments and that the London extra-mural department is not part of the wider network of institutes offering in multi-ethnic adult education. There are strong links with adult education institutes in London where much of the community education is done.

South of the Thames at Deptford, the Ravensbourne Institute allocates tutors' time to an ethnic minorities leadership project. This gives training in committee skills, the role and functions of committee officers and the way the local borough operates.

There are links again with Goldsmiths' College's school of adult and community studies where a centre for Caribbean studies is in the process of being set up with strong roots in the community.

Grand Christmas Quiz

Readers are invited to identify the following higher education flavoured quotations, giving both **AUTHORS** and the **TITLE** or **TEXT** from which each passage is taken, numbering each answer as below. Credit will be given for guesses and near misses and bonus marks given for passages identified by one or two entrants only. Clues may be found in the anonymous rogues' gallery. Book token prizes of £25, £15 and £10 will be awarded for the three best entries or for the first three completely correct entries drawn on the closing date. All entries must be received by first post on Monday, January 16, addressed to: **CHRISTMAS QUIZ, The Times Higher Education Supplement, Priory House, St John's Lane, London EC1M 4BX.** Winners' names and answers will be given in the issue of January 20. Good hunting!

1. At the University I sampled lecture courses in various subjects: history, literature, psychology, philosophy, and even lectures at the medical school. But I soon gave up going to lectures, with the exception of those in mathematics and theoretical physics. The University had, at that time, most eminent teachers, but reading their books was an incomparably greater experience than listening to their lectures. . . I also started fighting my way through the *Critique of Pure Reason* and the *Prolegomena*.

I studied mathematics because I simply wanted to learn, and I thought that in mathematics I would learn something about standards of truth . . .

2. The curriculum for my College of One was lost. I discovered its disappearance in 1954 when a magazine editor visited me in Beverly Hills and suggested I write the story of my life.

3. The happiest moment of my life was probably when I first

sported my oak - university jargon for shutting your outer door as a guarantee against interruption - in a fifteenth century attic in Magdalene in 1919 . . . Cambridge was mine to enjoy and cherish. The war was over; I was alive, and I'd thrown away my khaki kit. I recall saying that we had twenty years before another war. This was a good guess. Twenty years in which to read everything, meet everyone, and look for the answers. No one would interfere for at least three years, and the world was mine to explore.

4. Revolutionary in its theory, in its instincts, and in its ultimate goals, the student movement is not a revolutionary force, perhaps not even an avant-garde so long as there are no masses capable and willing to follow, but it is the ferment of hope in the overpowering and stifling capitalist metropolises: it testifies to the truth of the alternative - the real need, and the real possibility of a free society.

5. Dave does extra-mural work for the University, and collects about him many youths who have a part-time interest in truth. Dave's pupils adore him, but there is a permanent fight on between him and them. They aspire like sunflowers. They are all natural metaphysicians, or so Dave says in a tone of disgust. This seems to me a wonderful thing to be, but it inspires in Dave a passion of opposition.

6. I gather he will see a good deal of us: & if I had time, & if I could move the heavy stone of his self esteem an inch or two higher, I should like to talk out to Tom about writing. Only there's always the reservation - I can't talk about "my writing"; so that talk about his writing palls. But I am to find him 2 rooms in Somers Town. And we agreed about the infamy of teaching English; the idiosyncrasy of lectures; the whole hierarchy of professor, system & so on at any rate I got him to go some way with me in denouncing Oxford & Cambridge. He learnt (1) self confidence at Oxford; (2) how to write plain English - that's

all. I daresay though he will become Prof. of Poetry at Oxford one of these days.

7. The honours examination in my University is described as the Tripos. I have spent the whole forty years of public life that are recalled by this book perched, whether in circumstances of ease or of discomfort, on just such a tripos. One of its legs has been planted in academic groves, another in the arena of politics, the third in what was once our great Raj and is still culturally a microcosm of the world.

8. 1940
Dear Mama: I love Columbia. Of course I do. The best people here are all Jews - what you call "Hebrews". There is a not very interesting young man from Harvard who wears a lot of gray, a heavy, pedantic Middle Westerner, a disappointing star from Yassar. They are all very much admired by the faculty because they aren't too smart . . .

9. For many days he haunted the cloisters and quadrangles of the colleges at odd minutes in passing them, surprised by impish echoes of his own footsteps, smart as the blows of a mallet. The Christminster 'sentiment', as it had been called, ate further and further into him; till he probably knew more about those buildings materially, artistically, and historically, than any one of their inmates.

10. A child was on the way, and I had only twenty pounds in the bank. My mind shifted again towards the East, as it had done when I left Oxford, and I wrote to an old Oxford friend to see whether he could fit me into his department of English at Chulankurana University near Bangkok. His favourable reply came just too late to save me from this career of writing.

11. LECTURER, n. One with his hand in your pocket, his tongue in your ear and his faith in your patience.



12. Los Angeles, 1 June 1942
Dear Mr Benedict

Professor Leroy W. Allen, Chairman of the Department of Music at University of California at Los Angeles, advised me to get in touch with you about matters concerned with my retirement.

I was born on September 13, 1874, and was appointed Professor of Music in 1936.

On September 13, 1944, I will be seventy and it seems that under normal conditions I should then retire. Frankly I do not feel this way.

At first, it seems to me that as men below the age of 64 will probably be drafted for military service, only men of over 64 will be available for teaching.

But secondly, my career is not one which is ended by age. I was appointed on the basis of my merits as a composer and teacher and I do not feel that I am an old man because I am still improving my teaching methods; though, as the long list of excellent pupils of mine proves, my teaching has always been exceptionally good (excuse me for violating the laws of modesty).

Thirdly, I know of teachers of about my reputation (for instance at Columbia University) who at 80 and over still teach.

Anyhow, I want to ask you about the condition of retirement and annuities as regards the normal regulations of the University of California. I hope you will be kind enough to tell me all that concerns me any my special case.

This is important to me because knowing this in time would allow me to consider such offers of positions which reach me from time to time.

May I be allowed to bother you also with another problem? My sabbatical leave of absence.

Thanking you very kindly for your answers, I am, Most sincerely yours . . .

13. The leaves were yellow when to Furness Fells, The haunt of shepherds and to cottage life I bade adieu; and, one among the flock Who by that season are convened, like birds Trooping together at the fowler's lure, Went back to Grants's cloisters, not so fond, Or eager, though as gay and undepressed In spirit, as when I thence had taken flight A few short months before.



14. In the school of political projectors I was but ill entertained, the professors appearing in my judgment wholly out of their senses, which is a scene that never fails to make me melancholy. These unhappy people were proposing schemes for persuading monarchs to choose favourites upon the score of their wisdom, capacity and virtue; . . . with many other wild impossible chimeras, that never entered before into the heart of man to conceive, and confirmed me in the old observation, that there is nothing so extravagant and irrational which some philosophers have not maintained for truth.

15. Rest, that gives all men life, gave him his death, And too much breathing put him out of breath; Nor were it contradiction to affirm, Too long vacation hasten'd on his term.

16. March 16-20th 1914
Somerville College, Oxford
I found with my very first paper that I had been working on quite wrong lines, having read more books of criticism than the works of the writers themselves, which was not what they wanted. Also I found out that all the women's colleges have now entrance exams, so without this one I cannot get in at all.

17. At riper years to Wittenberg he went, Whereas his kinsmen chiefly brought him up. So much he profits in divinity, The fruitful plot of scholarship graced, That shortly he was graced with Doctor's name, Excelling all . . .

18. In 1970, because I wanted time to devote to my writing, I resigned from my job at the University of Ibadan. I gave no reasons, leaving the door wide open to the fantasies of an idle academic community. One of the favourite stories went thus: That Yakubu Gowon had sent special instructions to the university to pay my salary for the period spent in detention, that on receipt of this unexpected nest-egg I had decided to take up a Hollywood contract and spend the rest of my life in glamour and clover.

Grand Christmas Quiz

19. Though I am Oxford bred and very fond of Cambridge, I think that Edgestow is more beautiful than either. For one thing it is so small. No maker of cars or sausages or marmalades has yet come to industrialise the country which is the setting of the university, and the university itself is tiny. Apart from Bracton and from the nineteenth century women's college beyond the railway, there are only two colleges; Northumberland, which stands below Bracton on the river Wynd, and Duke's opposite the Abbey. Bracton takes no undergraduates. It was founded in 1300 for the support of ten learned men whose duties were to pray for the soul of Henry de Bracton and to study the laws of England.

20. MARTHA: . . . So, anyway, I married the S.O.B., and I had it all planned out . . . He was the groom . . . he was going to be groomed. He'd take over some day . . . first, he'd take over the History Department, and then, when Daddy retired, he'd take over the college . . . you know? That's the way it was supposed to be.

21. Between the State University of Euphoria (colloquially known as Euphoric State) and the University of Rumbridge, there has long existed a scheme for the exchange of visiting teachers in the second half of each academic year.

22. Girls' schools do not get into stuff like police riots, radical politics. No, our duty lies in gently leading docile females on to become the docile wives of the doctors or lawyers making it across Broadway behind Columbia's gates. It was not our girls' fight. But they broke and ran to it anyway.

23. At this time - it was 1937 - he had been Senior Tutor of the College for ten years. I had met him four years before, in 1933, when Francis Gatcliffe, knowing that I wished to spend most of my time in academic law, proposed to the college that they should give me a fellowship. Jago had supported me (with his quick imagination he guessed the reason that had led me to change my career when I was nearly thirty), and ever since had borne me the special grateful affection that one feels towards a protégé.

24. The number of spring bulletins and adult-education come-ons, that keep turning up in my mailbox convinces me that I

must be on a special mailing list for drop-outs. Not that I'm complaining: there is something about a list of extension courses that piques my interest with a fascination hitherto reserved for a catalogue of Hong Kong honeymoon accessories, sent to me by mistake.

25. It had been his father's wish that Manning should go into the Church; but the thought disgusted him; and when he reached Oxford, his tastes, his ambitions, his successes and the Union, all seemed to mark him out for a political career.

26. My own philosophy tutor was a man who appeared to be of the view that philosophy was something like alcohol - amusing and possibly stimulating if taken in moderation, but no use as a sustaining food. Of any philosophical idea less than 200 years old, he would say, 'I think you'll find that it's pretty well been exploded'.

27. The porcelain slab was patterned by a herringbone of grooves. Now these grooves were filled with the remarkable clarity of real, red blood. The body on the white slab, already yearning for its claustral peace, patiently waited, ignominiously still, as the pathologist in his salmon-coloured rubber apron and salmon-coloured rubber gloves wielded his little silver scalpel. Meanwhile, the genial conversation of the other medical students continued prosaically. For them that naked dead woman was but one page in the textbook of morbid anatomy.

28. PATTERSON: . . . Similar thing happened at my first lecture. It was terrible. A big lecture. Three hundred of the little buggers, all sitting there. I walked down to the front and I was nervous, desperate for a pee. I saw this door. I went in. It was a broom cupboard, with a self-locking catch. I stopped there until everything went quiet. Twenty minutes. Then I chucked myself at the door. Fell out on my face and all three hundred of them burst out laughing. They all knew. They'd just sat there quiet, waiting for me to come out.

29. He went into Mr Norris's empty office and sat down at the desk and composed a memorandum to Liberal Studies Staff. It was headed Notes on a System of Self-Teaching for Day Release Classes. He had just written

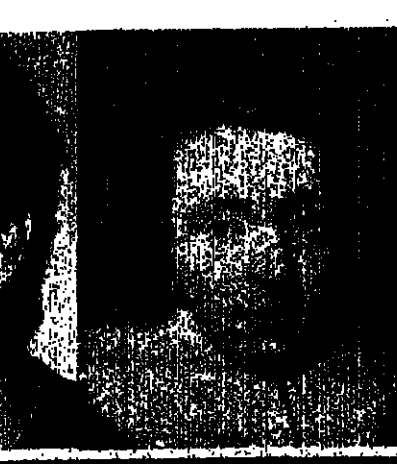
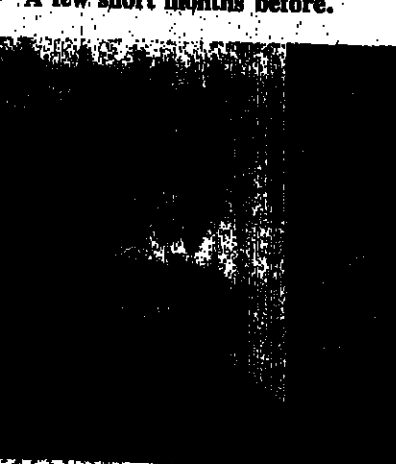
'non-hierarchical' for the fifth time when the phone rang. It was the Principal.

"Thank you", said the new Head of Liberal Studies.

30. George Zeyer, Emeritus Professor of Central European History at the University of Northampton, was lying upstairs in bed waiting to be done . . . Five months previously, George had a severe stroke that had incapacitated him with hemiplegia, that condition in which the motor muscles of half the sufferer's body are paralysed. In this case, George being right handed, it was the right half.

31. I was living at that time in a flat that belonged to my parents, which dangerously misrepresented my status. My parents were in Africa for a couple of years; my father had gone to a new University as Professor of Economics, to put them on the right track. He was on the right track himself, or he would not have been invited.

32. The Peter of this period was really charming, very frank, modest and well-mannered, with a pretty, lively wit. In 1909 he went up with a scholarship to read History at Balliol. . . . He acquired affectations, an exaggerated Oxford manner and a monocle. . . . He was in his second year when Denver broke his neck out hunting and Gerald succeeded to the title.



Christine Shinn traces how the University Grants Committee has changed with the times

The chairman of the University Grants Committee asserted in the preamble to the by now infamous question 28 that, "the role of the UGC has changed very considerably since it was set up in 1919".

UGC watchers, aware of the sensitivity of the relationship between the Department of Education and Science and the Committee, of the size of the budget, of the pressures of the binary division and of the complexity of university governance in 1983, would confirm Sir Peter Swinnerton-Dyer's assertion. It would be simplistic, however, to believe that the body which first met as the UGC in July 1919 - "to inquire into the financial needs of university education in the United Kingdom, and to advise the Government as to the application of any grants that may be made by Parliament towards meeting them" - was either naive, ill-compounded, poorly serviced or hastily established.

It would be mistaken too to believe that the evolution of that committee over the next 30 years was in ignorance of national or regional need. The manner in which the English university system developed in the first half of this century and the international acclaim which it received owed much to the wisdom of the position taken by the UGC during that period.

This is not to say that a change of role for the committee in the 1980s is ill advised or inopportune. This would not be the first occasion on which the UGC and the principle of state support for the universities have been under scrutiny and indeed considerable changes were effected in 1946 in response to altered circumstances and different levels of demand. The amended and extended 1946 terms of reference acknowledged a shift in the balance of university funding from approximately 33 per cent to in excess of 66 per cent of state aid to this sector and a related increase in UGC powers. The system which emerged then was consequently able to cope with the post war and post-Robbins expansions.

The bogey of state control has never been far from any discussion on government contribution to higher education. From Disraeli to Beloff the warnings have remained constant: have emphasized the creative tension between autonomy and anarchy,

The spur of necessity

national planning and government intervention. The UGC maintained credibility, at least until the 1960s, because it and both the Treasury and the universities, recognized these tensions and the consequent importance of the UGC's buffer role. The committee flourished for four main reasons - its origins, its procedures, the personalities of its early members and officers and its collective wisdom.

First state support of the modern kind was applied to the university institutions at a most appropriate time and in manageable amounts. When the first grant was made to the universities in 1889 Oxford and Cambridge were just emerging from the constitutional traumas and academic abuses of the nineteenth century. London University had been founded, reviewed and reformed and the civic universities had survived their most precarious and impecunious years.

Various ad hoc bodies accountable in turn to the Treasury and the Board of Education had distributed a series of grants beginning with £15,000 in 1889 and moving by small increases to £250,000 by 1913/14. In 1919/20 the newly formed UGC allocated a recurrent grant of £678,500 and the total grant paid out in 1921/22 by that committee had reached £1,844,832.

The universities had been established and consolidated before these larger distributions were made. Government grant had therefore neither initiated nor university development nor radically redirected it. It assisted at a point at which assistance was urgently required but a contribution of less than a third of total recurrent income was not a dominant factor. In addition it was emphasized in all the negotiations between 1870 and 1919 that it was the university institutions which had sought state aid and not the Government which had insisted on giving it or on participating in the venture. The small size of the grant allowed it to be administered for 30 years by ad hoc and non-bureaucratic advisory bodies.

Second, and as a direct consequence

of the informal and unostentatious nature of its origins state support was handled by sensitive methods which depended on well tried and thorough procedures. The system of grants-in-aid was suited to an enterprise which had to accept a degree of accountability but could not have flourished under tight non-academic control.

The UGC, standing Janus-like between government and institutions, allowed the universities freedom to develop along lines dictated primarily by academic considerations and yet facilitated interchange between the Treasury and the committee so that policy could be informed by national considerations. The needs of the nation, whether expressed by the May committee, the Goodenough report or the Department of Scientific and Industrial Research recommendations, could be subsumed into the UGC thinking without being directly imposed on the planning of individual institutions.

The UGC's own procedures of visitations, interviews, returns and reports, developed as sympathetic yet scrupulous instruments for the accretion and dissemination of detailed information. The UGC's position of strength had a firm foundation on the volume and objectivity of the data it carried.

The accounts at Reading could be questioned with confidence and the revisions to ordinances at Birmingham scrutinized effectively because the committee had access to both the minutiae of institutional transactions and the broader knowledge of the ethos of each of the universities gained by visitation and frequent personal contact. Linked to this battery of multi-faceted procedures and ensuring acceptance of them, was a pragmatism and a flexibility which allowed a small committee to escape domination by bureaucracy.

The committee did not begin with tightly drawn regulations and conventions but, by responding to particulars, such as requests for recognition from the university colleges, developed a general attitude. One complaint

against the UGC in the early years was that because of this pragmatism, it was more capable of response than initiative. It later became obvious that the committee could present the institutions with positive leadership.

This welcome method of proceeding cannot be dissociated from the membership and it is this third facet of its success which is most difficult to quantify and dissect. There was no doubt among contemporary commentators, supported by historical evaluation, that the UGC was fortunate in its membership and, equally so, in its officers. Many factors contributed to this potency - the small size of the committee which encouraged *esprit de corps* and intimacy of discussion; the understanding of national issues brought to it by such chairmen as Sir William McCormick (1919-1930) and Sir Walter Moberly (1935-1949); the total commitment and stature of secretaries such as Sir Walter Buchanan-Riddell (1919-1922) and Alan Kidd (1922-1933); the close identification of interest between the officers and a length of service which allowed consistency.

The quality of members and their real regard for university education was appreciated by their counterparts in the institutions and senior officers such as Childs, Hetherington and Wortley reposed trust in their UGC advisers.

The final contribution was, in a sense, greater than the sum of all of them. It was the ability possessed by the committee to identify the quintessence of university education developed from medieval archetypes and to preserve that identity by a dogged adherence to what was fundamental to it and a flexibility towards what was peripheral. The strength of the early UGC lay in its ability to adapt the institutions while defending the ideals. The UGC identified the essence of the university and then protected that identity by monitoring the progress of those institutions which possessed it (the chartered universities) and scrutinized the claims of those who aspired to it.

The identity was based upon community, quality and autonomy. The UGC hoped to ensure the survival of high academic standards by refusing to interfere with them. Matters of admission, examination, appointment and dismissal of staff, and syllabus content were areas in which the UGC never intervened. There was unanimous support from the universities for this restraint. Complete freedom from interference in those fields fostered a relationship of trust which permitted interventionist activities in other spheres to be more readily accepted.

The UGC facilitated the adaptation of the universities within the changing society of which they were a part. The balance of numbers between the disciplines could be altered, the size of the university population could change, the recommended dimensions of teaching rooms could be reconsidered, the threshold for financial viability could be renegotiated. The university could not become a monolithic, tied house; it could not recognize government directives on teaching; it could not be bought by benefactor, or pressured by local authority or industry to concentrate on their demands to the neglect of national needs.

Rashdell, as commentator on and historian of the medieval university movement accepted that new demands should be met by new solutions. He wrote of the need for university institutions to undergo "perpetual modification" in order to survive. It is inevitable, therefore, that the "considerable changes" which have taken place in the role of the UGC or the "further changes" which may be envisaged, are threatening to the university system. If the role is adapted as it was in the early years without the loss of integrity, credibility or sensitivity it may offer increased chances of survival of the British university system as we know it. The need for change is not a new phenomenon. Multicasting of the desirability of university reform in the seventeenth century said: "It is for each age under the spur of necessity to point out what is best for its own circumstances, and the state must exercise its wisdom and policy in bringing this about."

The author is senior assistant registrar at the University of Nottingham school of education.

In the third of an occasional series, Alan Wilson looks at educational theorizing about creativity

The best of both worlds?

At school and university, my main subject was mathematics - a discipline which epitomizes the popular idea of rigour. At the same time, I cherished ambitions to be creative.

As a student, I attended a lecture by a famous Russian poet mathematician and, a Professor Besicovich. I recall finding it difficult and I understood little. But I doubted neither his rigour nor his creativity. A few years later I noticed his obituary in *The Times*. Besicovich was quoted as having once said that he wanted to be remembered for the number of BAD proofs he had produced.

What he meant, of course, was that he wanted to be remembered for his originality. And that, being original, meant being rough at the edges and making bold intuitive leaps which somehow couldn't be encompassed within the conventional rules of rigour. The underlying up could be done by others later.

These awakenings were in the 1950s and early 1960s and it was in that period that academic studies of creativity appeared. In psychology, education and the biological and physical sciences. The psychologist J. P. Guilford, in 1950, introduced the concepts of convergent and divergent thinking as personality traits which could be related to creativity. Convergers operated within a given set of rules and worked towards one correct answer while divergers searched for alternatives, possibly trying to solve a problem by reformulating it.

A more recent illustration of the distinction is represented by Edward de Bono's vertical and lateral thinking. It seemed that divergent thinkers were much more likely to be creative than convergers. These findings caused some consternation among educationists when it was realized that high scores in IQ tests correlated with convergent personality traits and that it was convergers rather than divergers who were supported by the education system. It was even argued that the launch of the Sputnik in 1957 caused the brain-drain in American education; the system was not generating the creative

people it should; the nation was slipping behind.

Creativity tests were invented to complement IQ assessment and, as predicted, high scores on these correlated with divergent personality traits. Ways were found of loosening curricula and changing teaching methods to encourage divergence. These involved providing a less authoritarian, less evaluative atmosphere and encouraging a problem-solving approach to learning rather than the rigid study of conventional text books.

Students were encouraged to "develop a range of ideas before testing them against accepted knowledge". Develop creative skills by suspending critical judgment; but make sure that rigorous criticism re-emerges later. Creativity in an atmosphere of rigour; and vice versa.

The argument became more complicated in the 1960s. Within psychology, L. Kuhn showed in various pieces of empirical work that the convergent-divergent dichotomy correlated not so much with level of intelligence or arts careers respectively. (Perhaps not surprisingly, he found psychologists suspended in between.) Further, when the careers of successful creative individuals were scrutinized, many of them had had a "convergent" education. So it was argued that both traits were relevant to creativity and that the new movements in school education, particularly in the United States, could be misguided.

Hudson took the argument still further by exploring the underlying personality characteristics which generated convergers and divergers. In *Contrary Imaginations* he produced a fascinating if speculative explanation of the differences: the parents of convergers, and hence scientists, would have these two traits; the parents of the Sputnik in 1957 caused the brain-drain in American education; the system was not generating the creative

and fixates (between five and 13) on an interest and involvement in "things" rather than people.

The creative arts person has more emotional involvement, is more secure in the early part of life, and fixates during adolescence but has an ambivalent relationship with people, having "closer relationships" but also using them as "fodder" in academic or creative endeavours. Fortunately for most of us, our make-up is likely to be a mixture, though one end of the spectrum might dominate. Ideally, we should have the qualities of what Hudson calls an all-rounders.

From a different disciplinary perspective, Thomas Kuhn propounded his theory of scientific revolutions: that a field of science proceeded according to a normal paradigm until the force of the problems which could not be solved within the paradigm became overwhelming. Then there would be a revolution and a new paradigm. More primitive sciences could be in a pre-paradigmatic state involving many ideas and theories with insufficient evidence to choose between them.

Kuhn's book, *The Structure of Scientific Revolutions*, was published in 1962. In 1969, with the main ideas formulated, he presented a paper to a conference on creativity which was attended by mainly psychologists familiar with the concepts of convergence and divergence. He incorporated these ideas into his own work in a paper called "The essential tension" and labelled different phases of the development of a science as convergent or divergent: normal-paradigmatic science was the former, pre-paradigmatic or revolutionary science the latter.

What he then argued was that major discoveries in science were achieved when the field was at the end of a convergent phase because it was only then that the significance of new ideas could be assessed and appreciated. They solved problems which were intractable in the old paradigm so

although divergent thinking may be needed to generate the ideas, the presence of a convergent framework was necessary to provide a base.

Hudson's account of the underlying psychoanalytical explanation of the development of these personality traits remains speculative and now seems particularly deficient in some respects. For instance in his neglect of women, a feature which was more typical of the 1960s than is considered desirable today. Kuhn's work, which he himself takes to be "sociological", is criticized by philosophers, particularly Popperian, for being irrelevant to their central concerns and by sociologists who argue that by focusing on scientific communities, Kuhn does not take connections to other social institutions sufficiently into account.

The main point that I want to make here is this: in spite of the weaknesses of our knowledge about creativity and the relevance of the concepts of convergence and divergence, these kinds of ideas are the best we have available, they are worth pursuing and we should relate them to our contemporary concerns in higher education.

Our concerns will obviously be different in different disciplines and indeed we can have some fun by characterizing the non-science disciplines in convergent-divergent terms. Scientists are obviously mainly convergers and developers of teaching methods could generate some divergers' skills. Students might be able to write better and go out into the world and industry with a better problem-solving capability. Divergent skills should be evident in creative arts departments and, perhaps, in radical social scientists where, in each case, involvement with people and communities is direct.

But it could be argued that in higher education, most arts and social science departments operate at such a remove from their subject matter - literary criticism rather than creative writing; interpretive history rather than active

social science - and with conventional goals of seeing students through examinations that they too are, in the main, convergers.

They perhaps could also operate in the framework of normal paradigms so that Kuhn's argument can be extended beyond science. So some attack on teaching methods - the provision of opportunity for more creative work for students - is as much a priority for them as for science departments. For all departments, what we have to worry about at least is rigour.

Whatever creative activity we can generate will take place in an atmosphere of rigour which represents the best of present teaching in higher education.

Similar arguments apply when we look at research. We set up convergent goals: expectations that PhD theses should conform in a particular way. Research Council Committees demand that project proposals should accord with a set of conventional norms; similarly, referees acting for journals.

The understanding of the conflicting requirements of rigour and creativity, of convergence and divergence, even used in an intuitive way because this understanding is not fully worked out, should help us to change things - at least to explore warily in new directions. We need to recognize that we have different kinds of students to teach; undergraduate and postgraduate; that members of staff will themselves have different and complementary traits; that convergers (students and staff) need to be offered divergers' skills, and vice versa; that we should find new ways of examining, and of judging research proposals and papers submitted to journals which encourage originality. This should be possible in a way which is not, at least in the long run, unrigorous. To make such changes is easier said than done, but we need to think about them and to initiate some experiments.

The author is professor of urban and regional geography at the University of Leeds.

Gerald H. Elliot gives his views on public funding for creative activities

State of the art, state and the arts

History does not tell us clearly what social conditions foster the arts. We know that some leisure is needed, that a society which had to apply all its energies for survival or chose to concentrate them on material enrichment would not engender great art. Strong emotions, of human love, fear of death, worship of God, provide inspiration in every age. Then there is the uplift that comes from the sudden flowering of a civilization, a burst of self-confidence and creativity as in fifth century Athens, something that can be analysed and explained in retrospect but never predicted.

It is easier to understand the machinery by which art creation and performance is supported. The artist will only flourish if there is someone both to appreciate what he does and to nourish him for doing it. He may be a Charles Dickens, accepting the pennies of a large and enthusiastic public for his weekly instalments, or a Mozart composing his masses for the Archbishop of Salzburg, or one of the hundreds of nameless Indian craftsmen who adorned the Victorian gothic of Bombay railway station.

There seems no relationship between the type of government and arts creativity, nor should we expect this, since art is created by individuals, not by the exercise of power collectively or individually. At one extreme, totalitarian governments direct the arts entirely for their own purposes, and so destroy them. At the other, it may be that democracies which reflected exactly the feeling of the majority of their voters would accord low esteem to the arts and discourage the creators. In the area in between where most governments are to be found, sovereigns, aristocrats, and parliaments have always used some of the wealth they dispose of for the production of works of art to the glory of their gods or of themselves.

It is only in recent years that the governments of western industrialized countries, having come to control about half of their national wealth, have considered that it is their duty to support not only, as they always have done, the arts which buttress the framework of society, but the more private arts, painting, dance, literature, which are practised by individuals independently of society's institutions and often in direct conflict with them.

In Britain, the original inspiration for this came from Maynard Keynes, who had achieved a position of unique funding through his work in economics. The Council for Encouragement of Music and the Arts came into being in 1943 and from it developed the present Arts Council of Great Britain, an independent body nominated by government to distribute its bounty. The Arts Council pattern has been followed in many other countries, particularly in the Commonwealth, though some governments, for example France, prefer to control their patronage more directly through a Ministry of Culture or its equivalent.

An arts council as envisaged by Keynes was to provide money to support a few key arts institutions - opera, dance and theatre companies, enabling them to provide performance which would be of the highest artistic standards and would be played to audiences all over the country. The Arts Council charter stressed both these considerations, "quality" and "accessibility", and they remain central to council policy.

The Arts Council now has a budget that approaches £100m, rigidly fixed when compared with France or Germany, but showing a remarkable growth from its modest beginnings. The activity is paralleled by local government, which adds its backing to many of the institutions backed by the Arts Council and often provides the buildings that house them.

There should be no surprise that the Arts Council, with enthusiastic leaders and a talented administration, should have followed the pattern of any other healthy organism in expanding its activities to the limit of nourishment available. But we should perhaps pause occasionally to consider what in our own generation should be the guiding principles for government patronage of the arts, whether limited should be set both to the areas of support and to the financial help provided. This is particularly relevant just now when our failure as a country to create the wealth we want has to be reflected in restriction of our public budgets, of which arts funding is a part.

Arts patronage as a respectable government activity has strong public support, not least, from the many arts organizations which depend on the Arts Council for their existence. It has its most eloquent defender in Lord Goodman, chairman of the council for many years, and more than anyone since Keynes the outstanding champion of government support for the arts in Britain.

The Goodman argument is simply that arts are essential to a civilized society, so they must be supported by that society. They may be elite arts, but they are not a small minority of people, and they do not matter.

One articulate critic of current policy, the novelist Kingsley Amls, maintains that the mar-

ket economy is sufficient to provide the arts that people want and are prepared to pay for. There can only be a handful of geniuses in each generation, and they will produce their work regardless of whether government supports or ignores them. If government subsidizes arts creation or performance, all it will achieve is a proliferation of the second rate. A deployment of part of this thesis came in last year's Reith lectures, where Professor Denis Donoghue, of New York University, argued that arts are by their nature in conflict with society. If they are adopted and made respectable by governments, they lose their force, are emasculated. So the embrace of the state is the kiss of death.

The total Arts Council budget is at present about £94m per year. In the past ten years this has been increased by 87 per cent in real terms, though over the past four years it has barely kept pace with inflation. There is no doubt that the progressive increase of public funding has produced an abundant harvest.

The arts councils as set up at present have full power to distribute the Government grant at their discretion. While the Arts Council of Great Britain has constitutional responsibility for the whole of the UK, it passes over to a Scottish and a Welsh Arts Council agreed shares of the total budget, and gives them virtually total freedom for expenditure in their areas. The chairman and members of the council are appointed by the minister for the arts, who tries to mix interests, age, geography, sex, occupation, and several other variables, to make the ideal balanced quango. These are supported by expert panels for each of the art forms who advise on, and sometimes take the decisions on, the individual grants.

It is a long-standing tradition that the minister maintains an "arms length" policy with the council and does not intervene in its decisions. This principle of removing artistic decisions from the political domain provides reassurance for the arts and relief to the minister from what could be an embarrassing responsibility.

From time to time proposals have been made to remove specific areas of arts funding from the council and vest them in the minister, usually in the hopes of getting more total funding in this way. The latest effort in this direction has been the Treasury report of Covent Garden and the Royal Shakespeare Theatre, which suggests separate direct funding for these institutions. Such initiatives have been received unenthusiastically by the Arts Council.

The arts council system inevitably attracts, basically, because Government patronage can never satisfy all its applicants, and because people interested in the arts are by definition some of the most vigorous, imaginative and articulate people in society. But if such patronage has to be allocated on some basis of consensus, it is difficult to set a better system. The legitimacy of direct democratic election is absent, but there seems no way of introducing this satisfactorily.

Recent governments, attempting to curb public expenditure but maintaining a sympathetic aspect to the arts, have increased grants only in line with inflation. This is uncomfortable for arts institutions. Their staffs - actors, musicians, scene shifters, managers - look for the progressive improvement to their real incomes which is still being secured by the rest of the working community, but there are few productivity gains that can be made to pay for this.

You cannot cut out the second bassoon in an orchestra or the extra Wagner chorus. So the theatre opens for fewer weeks or the number of new productions is reduced. Arts councils then have to make painful choices. In practice councils have been steering a middle line. Some companies have been sacrificed but mostly they have been given their share of the money and told to do their best. Minds have concentrated wonderfully in the shadow of the guillotine. But there is a limit to what anyone can do. Eventually, unless government maintains grants at least in line with national income, arts activity will decline.

The distribution of arts funds is one of the main questions of arts councils. They must somehow weight up the comparative claims of up to 1,800 clients, ranging from Covent Garden, currently taking about £20m, to the provision of a literature prize of £150. Clearly there have to be one or more intermediate levels of allocation.

In arts and politics the decisions rest on value judgments which cannot be fixed in terms of profit and loss. Jeremy Bentham, the utilitarian philosopher, thought he had the answer. His felicific calculus was intended to decide such matters by computing the amount of net happiness produced by each course of action. Unfortunately, pleasure is not a commodity that can be weighed like sugar.

In tackling this problem, the council finds itself more comfortable with the general than with the particular. Matters of policy, such as the council's role in arts education, the support of ethnic art, special provisions for outlying areas, are discussed and decided and then the decisions are provided in general guidance. Certain indicators are provided for arts councils to guide their judgments on individual cases - quality, accessibility, sup-



Arts Council critics and supporters: Amls (left), Goodman and Donoghue.

port by public, interest of local authorities, alternative provisions. These signposts help in the comparison of similar companies or institutions. They do not provide a basis for judging between the claims of, say, an art gallery and a national book fair, nor on the desirable balance of grants between companies and individuals. In practice the allocation of council funds is largely dictated by the patterns built up case by case in the past, and a big part of the budget is preempted by the large artistic enterprises. In the short run switches of funding are only possible at the margin.

We should not leave the domain of arts funding entirely to the arcane judgments of a few high priests of the cult. Government assistance to the arts must be justified by its benefits to the consumer. Unless an artistic production or a work of art is going to be appreciated by some people apart from the artist, it is of no public value.

If an artist is only interested in creation for its own sake, as he is perfectly entitled to be, he should not expect society to fulfil for him his purely private needs.

Public expenditure on the arts as a continuous programme has quite a short history, and we are continually learning more about the issues involved. Opera companies and art galleries, orchestras and community centres once established have their continuing claims to a minimum share of the budget. They become national institutions whose status is fortified by fine buildings, distinguished boards of directors, strong corporate loyalty, all the trappings of permanence. To bring one of them to an end by cutting off its grant would be like dissolving the monasteries, and Tudor kings are not to be found on arts councils. Such bodies also, like any successful organization, have perpetual ambitions to extend themselves. Meanwhile others, who are outside the charmed circle, clamour to be admitted, but can only come in at someone else's expense. Because arts councils naturally strive to protect and help their clients there are few casualties. The nightmare of arts councils is a scene in 20 years' time where well-intentioned subsidies have paralysed the normal sequence of growth, maturity and death, and the arts are frozen in a pattern laid down in the 1960s and 1970s which no longer meets the demands of a new generation.

While we continue to get inspiration and pleasure from the arts of a previous age, even to the exclusion of our own, it is right for them to be publicly supported. It must be the aim of policy to extend their pleasure to ever widening circles, and increasingly through sound and screen reproduction.

Any arts support policy must be designed for society. The important trends to be seen are a vast increase in television entertainment, direct and by videotape, more and more faithful music reproduction, increase in interest in live opera and ballet, perhaps some decline in theatre. Education ought to be making people more interested in literature and art, but the screen again may become a substitute for the book and the gallery.

Arts policy will have to work at several levels to meet the future pattern of demand. Firstly there are the institutions, companies or organizations which represent the best the country can do in performance and interpretation. Their standards and influence permeate the cultural life of the country and set the tone for smaller companies and groups, professional and amateur. They are the source of the high quality recordings and screen productions which are going to be increasingly demanded. There are dangers that national institutions are left behind by public demand or become so uneconomic that they cannot be maintained. Grand opera flourished in the nineteenth century because the enormous cost

of singers and orchestra were relatively cheap. But arts performance cannot be cocooned from the outside world of economics. But in return they must accept continuous critical assessment from outside and inside, to ensure that they remain vital organisms.

Arts councils can apply some of the material yardsticks mentioned earlier to measure the health of such an organization. Box office, donations and, increasingly, business sponsorships, measure, to varying extents, the consumers' appreciation of what is offered. If a company fails to maintain its box office or loses its outside support it is a warning sign, translated into market terms, that it has outlived its artistic and economic usefulness.

The traditional and live arts have been kept distinct from film, television and video in government thinking. Although we in Scotland have provided some support for film work, film and television is in general supported by bodies quite separate from arts councils. This distinction is curious. We know that the rise of the cinema knocked out the music hall, and that many more people take their entertainment from the telly screen than from live performances.

Screen reproduction is for the enthusiast a poor substitute for the real thing, but the potential opera-goer in Stornoway, oceans away from the Theatre Royal in Glasgow or any acceptable alternative, will surely welcome Scottish Opera on telly or tape.

If we see entertainment moving even more into the sitting-room and a decline in support for professional performance, we may find that interest in the live arts will rest more on the amateur. The distinction between amateur and professional is, of course, in the arts, a false one. The traditional criterion of whether a person is highly trained and makes his living from the occupation is no longer relevant. Judicious support from arts councils could help them to become an important part of the public arts scene.

Most debates on spreading interest in the arts centre with education. Unless some enthusiasm is woken during school days, there will be no arts consumers in the future. Educationists, already overladen with society's demands for the technical skills necessary to create wealth, find it difficult to make room for arts training or experience. Arts councils, with their relatively puny resources, can do very little to solve this problem, but they can contribute by bringing performing companies into the school or by attaching individual writers, artists, and dancers, to them.

Much of what I have suggested as arts funding criteria is related to, though not dependent on, market economics. As such it would find some favour with the sponsors of Kingsley Amls' paper, the Institute for Policy Studies, though no doubt they, like Amls, would question the principle of public subsidy. Clearly economics must have an important role in setting patterns for the arts, as it does for nearly every other human activity. If government provides money for the arts it needs economic techniques to help to allocate scarce resources between competing ends, even though these ends can not simply be measured in money terms.

But acceptance of this bounces us forcibly back to Professor Donoghue's thesis of the corrupting effect of the State. If arts councils become the musical banks of Erewhon, dispensing carefully judged financial support blended with moral guarantees, what will happen to the arts they support? Will they be tamed, demystified, folded into the warm, too tolerant, embrace of the established order? Or, more specifically, will the arts entrepreneurs and artists lose their souls in perpetual calculation of capacity load factors, marketing budgets and marginal cost?

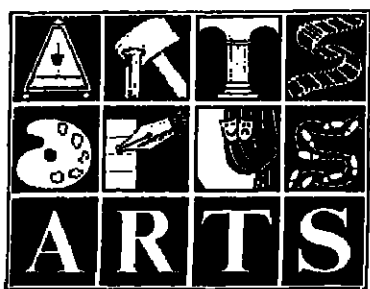
The author is chairman of the Scottish Arts Council. This article is based on an address given before the Royal Society of Edinburgh in November.

Jumping on the Bond wagon

When the first *Sunday Times* Colour Supplement came out in February 1982, it featured two of the seminal faces of the 1960s: Mary Quant and James Bond. Twenty-two years on, they are both still very much with us. Bond, in particular, has become an established part of the broader cultural scene.

In her "Notes on Camp" Susan Sontag observed that the camp sensibility "makes no distinction between the unique object and the mass-produced object". And nothing, nowadays, is more intellectually fashionable than popular culture. Like the artistic genius imagined by the Romantics, upon whom inspiration tended to drop, all unexpected, from on high, the purveyor of popular culture is reckoned to have a more direct line to the ideological centre of the universe than the rest of us. Not that he's supposed to be really conscious of the fact. It just "comes to him". Only the analyst of popular culture can be expected to know how.

The study of the mass-produced does, of course, have its fringe benefits. While all the studies tend to suggest that their subjects are the *reductio ad absurdum* of popular culture and that watching them is a penance—I have always been struck by how fervently their authors deny the aesthetic criteria which saturate their every sentence—the researchers, I suspect, rather enjoy them. One of Susan Sontag's most memorable examples of true camp was "stag movies" seen without lust. For the academic analyst of popular culture, the equivalent



Nick Roddick says that James Bond is stirred, not shaken, by a split persona

lent is Bond movies seen without pleasure.

This has been a good year for such self-denial. Instead of a Bond film every two years, which has been the pattern since *You Only Live Twice* in 1967, we have had two in six months. *Octopussy*, with Roger Moore walking through the part for the sixth time, came out in June. It was produced by the old firm of Eon Productions, headed by Albert "Cubby" Broccoli, who goes right back to the start—to *Dr No* in 1962—and has produced every Bond film except *Casino Royale*. Until now, that is, *Never Say Never Again*, which has just opened. Is the product of a longstanding dispute between film producer Kevin McClory and the Fleming estate. McClory claimed that *Thunderball* the novel, published in 1960, bore a suspicious resemblance to an unmade film script he had written with Fleming the previous year. The result of a protracted court case was that the movie rights reverted to McClory ten years after the release of

Thunderball the movie in 1966. Since 1976, McClory has been trying to set up a film, *Never Say Never Again* is the result, its story based on *Thunderball*, its title a reference to the fact that its star, Sean Connery, has been persuaded to reverse an earlier decision to hang up his Beretta (his last appearance as Bond having been in *Diamonds Are Forever* 12 years ago).

Quite what the analysis of popular culture will make of this split in the seminal personality is hard to say, though for all I know the correct generative model is even now being evolved in the corridors of Milton Keynes. But for many of us, even aged 53 and sporting a toupe, Sean Connery remains the only real Bond. The gradual decline of the movies (though not, it must be said, in box-office terms) behind Roger Moore's self-satisfied smirk made one forget that there used to be more to it all than innuendo and exploding sex. Connery has brought back the world of adult fun which made the early Bond movies so

compulsive—a fun, like the best Christmas panto jokes, balanced on a knife edge between naivety and knowingness. Moore was all knowingness (knowing mostly, one felt, that he was earning more than anyone else in the room). Connery brings back that element of high camp—a sense of sitting comfortably astride contemporary attitudes with a foot in either camp. His Bond is the kind of character American popular culture has produced again and again, but which we British have rarely been able to bring off: sarcasm, after all, is no match for true moral ambiguity. In *Never Say Never Again* there is a scene in the Casino de Monaco which, with its mixture of suavity and rudeness, elegance and excitement, is as good as anything in the entire 15-film cycle.

Kingsley Amis, as usual claiming universality for his sex, once said that "we don't want to have Bond to dinner or go golfing with Bond... We want to be Bond". Connery's strength is that he knows "we" want to, and respects that desire at the same time as he demonstrates its absurdity. As a result, *Never Say Never Again* is a film which accords more intelligence to its audience than any of the recent Eon Bonds—and more, perhaps, than the cruder cause-and-effect models of popular culture would have us believe possible.

Nick Roddick has taught at Trinity College, Dublin, Manchester University and California State University, Long Beach. His book, "A New Deal in Entertainment", was published by the BFI in July.



Sean Connery in "Never Say Never Again".

Events

Exhibitions:

To January 2. Cartwright Hall, Bradford. *Flesh and Stone*: the first of the Arts Council's series of "three exhibitions about sculpture". This exhibition includes sculptures by Rodin, Matisse, Giacometti, Moore, Epstein and Caro.

To January 3. Leicester Museum. Large Victorian paintings from the museum's reserve collections are on display to the public while museum staff examine them.

To January 7. City Art Gallery, Manchester. The British Museum's exhibition "Edo: the art of Japan 1600-1868". The central theme is the great city of Edo—the modern Tokyo.

To January 7. Hunterian Art Gallery, University of Glasgow. An exhibition to mark the fiftieth anniversary of the death of Margaret MacDonald Mackintosh, one of the outstanding artists of the Glasgow School. Works displayed include graphics, beaten metalwork, embroidery, gesso and textile designs.

To January 8. Verens Art Gallery, Hull. *AIA: The Story of the Artists International Association*. Work produced during the first 20 years of the Association, which was founded in 1933.

To January 9. Gallery of Modern Art, Edinburgh. *Expressionists and Constructivists: two aspects of art from Germany*. The exhibition illustrates the conflict between the Expressionist ideals of highly personalized art—the work of Munch, Nolde and Kirchner—and the Modernist and Constructivist emphasis on the formal and geometrical.

Concerts:

January 2. Lancaster University. Manchester Camera, conducted by Denis MacCallin: Mozart, Beethoven and J. Strauss.

January 4. Riverside Theatre, New University of Ulster. Viennese night: waltzes, polkas and songs.

January 13. Stevenson Hall, Royal Scottish Academy of Music and Drama, Glasgow. Midday concert by Virginia Black (harpsichord): J. S. Bach and Rameau.

January 14. Arts Centre, University of Warwick. Recital by Alfred Brendel: Schubert sonatas.

January 15. University of Exeter. Catherine Lord (violin) and John Lennan (cello): Vivaldi, J. S. Bach, Fauré and Saint-Saëns.

January 16. Glasgow Cathedral. University of Strathclyde concert: *From Christmas to Candlemas*. Works by Tallis, Dupré and Poulenc.

January 17. Brunel University, Uxbridge. "An entertainment in words and song".

January 18. Royal Northern College of Music, Manchester. Rose Consort of Viols. Works by Byrd, Dowland, Tomkins and Gibbons.

January 19. University of Nottingham. Court music from Java, played by the York Gamelan Orchestra.



East German playwright Volker Braun, whose play "The Great Peace" was performed at the University of Essex last week.

A little late-night music

Those music lovers who suffer from the seasonal excesses of relentless harmony and melodic good cheer are being offered the perfect late-night antidote by Radio 3: most evenings this month, usually at 11pm, a this slice of the music of Anton Webern will be broadcast. On December 27, 28 and 30 there are opportunities to hear a still-neglected area of his miniature oeuvre, in the form of the *lieder* which preoccupied him in the middle years of his composing life.

The prevalent image of Webern, born a hundred years ago in Vienna, is that of a minimalist who carried music to a peak of abstraction and refinement. This is true in as much as he limited himself to the smallest units, working up a maximum of coherence from the minimum of material. To a major he provokes the same response as the infant Henry James pronounced on a puppet-show. "What economy of means! and what economy of effect!" But this is not a full characterization. Webern is also truly a later-day German Romantic, seeking out "the expression-charged moment" from each individual sound.

He was deeply affected by Goethe's philosophy of nature, and saw his teacher Schoenberg's concept of the 12-note series in terms of natural law, a manifestation of a primal and "ideal unity". In the *lieder* he sets texts by poets who shared his overwhelming sense of life as a holy mystery—Rilke, George, Rilke, Trakl, Goethe himself. He was, also, fascinated by Bergson's distinction between "real" and "transcendental" time, defending the extreme "transcendental" brevity of many of his pieces (sometimes a matter of seconds rather than minutes) as irrelevant to these dimensions in the Platonic realm of the Real.

The radical technical innovations made by Webern have, unfortunately, been misinterpreted by the intellectuals. The answer to this is simple: we must listen. Admittedly, a first hearing of any of the later instrumental works rarely gives out more than a sense of isolated sounds, not in themselves unpleasant but quite without ordinary musical sensibility or relationship. In fact, no composer organizes his compositions more absolutely. Webern's *lieder* are

was on late medieval music, from which he inherited an obsession with canonic, mirror-images, palindromes and other sorts of symmetry to which serialism itself was a parallel. What sounds like a maze is the most intricate of webs.

"The Radio 3 transmissions should not be missed, for Webern's music is ideally suited to late-night radio. He demands a degree of total concentration: difficult to give in concert-hall conditions (intensely, he taught for a time in a Jewish institute for the blind), and he demands solitude and tranquility. For the uninitiated, the *lieder* have the advantage of providing a vocal line to serve as a thread of meaning through that deceptive "maze" of sound.

Push aside thoughts about Webern's influence on post-modern music—here is music that casts its own peculiar, sensuous spell, and needs no further introduction.

Rupert Christiansen

Let's stage an opera!

If the operas of Benjamin Britten had appeared to be losing their terra firma in the repertoire during the years since the composer's death, then 1983 will certainly have put them back on the map, not least in music colleges around the country where *Albert Herring*, *Owen Wingrave* and, most surprisingly, *The Rape of Lucretia*—the runt of Britten's operatic litter—have been enjoying an unprecedented revival. The chamber works present obvious attractions—of scale, casting and ensemble—to student performers but the Royal Northern College of Music, emboldened by the challenges of Poulenc's *Dialogues des Carmélites*, of *Aida* and *Das Rheingold*, have gone for the big *Gloriana*, the much-criticized "coronation" of his thirtieth anniversary of his premiere. The choices bespeak on the part of the college's principal, John Manduell and opera studies director, David Jordan, a desire to stretch students in a far from foolproof way, to enrich the repertoire—*Gloriana* has not been staged in Britain since the 1974 English National Opera revival—and to build on the RNCM's reputation for turning out some of the country's most versatile opera artists.

But the college's record, dating back to the days of the old Royal Manchester College, was an amalgam of the Blind Ballad Singer's bluesy song with the Northern College of Music, has had its ups and downs. Its theatre, though still one of the best equipped for student use, has inevitably fallen behind in the technology stakes as a result of spending limits and the college can no longer afford the depth of back-up staff it once employed.

David Jordan describes a situation ten years ago when the new building in Oxford Road was opened and the opera course could call on the services of five repertoires and as many drama instructors and compares it ruefully with today's four music staff and two drama lecturers—putting in the same working hours with double the number of students, he adds. The RNCM is in the enviable position of some of the London colleges who have easy access to the coaching facilities of two professional opera companies and a host of freelance singing teachers and accompanists. But, he says, it is no longer the case. For the RNCM, the economic climate, viewed with hindsight, had not been justified and so he regards his present reduced staffing levels as a holding operation.

The economic climate has also necessitated rigorous control of production costs. The RNCM has been noted for fairly lavish spectacles in the past, but these days the watchword is "simplicity". David Jordan aims to mount each year a full-scale production with full orchestra—all college students and a number of warblers. Events in which

singers prepare individual scenes from a dozen or so operas. For stage presentations the principals will audition for roles and covers and the chosen cast will be prepared to the highest possible standard, intensively and over a longish period. With only two shows a year, competition is stiff but this, Jordan believes, gives students a taste of what they will have to face in the hard professional world outside. The workshops are geared to a more egalitarian distribution of parts. With over 120 voices to cater for there are logistical problems but at least it ensures a wide choice of soloists and an exciting choral sound.

That was certainly evident in the performance of *Gloriana* on December 3, when Britten's grand opera choruses rang out impressively in the acoustically spacious 600-seat auditorium of the opera theatre—a tribute to the training of chorus master, Brian Hughes. The college orchestra, too, gave a thoroughly creditable account of the complex and (particularly for the brass) demanding orchestration under Anthony Hose's experienced direction. Among the large cast of soloists, I perceived only one voice of exceptional potential, the sonorous bass of John Connors, recalling Paul Robeson with his soulful intonation of the Blind Ballad Singer's bluesy song.

The production had been, however built around the Elizabeth of Deborah Stuart-Roberts, a performance of quite astonishing assurance for one so young.

Unfortunately, David Penn—a new-comer to opera—did not quite manage to sustain the college's high reputation for production. Like many directors from the "straight" theatre, Penn seemed at his best when dealing with the individual tensions of the principal characters but at a complete loss when directing the chorus.

Only has to compare Nicholas Hynner's outstanding achievement in motivating his student chorus in the Royal Academy of Music's production of *Eugene Onegin* at the Jack Lyons Theatre on December 5. After grandly vocalized Bolshoi recordings, and large-scale productions at Covent Garden, we tend to forget that Tchaikovsky's "seven lyric scenes" for Pushkin were written specifically for students of the Imperial College of Music in Moscow and though the voices at the RAM are only now marvel at the vocal impact, that a visually and vocally youthful cast affords, this was one of the most moving performances of Tchaikovsky's opera that London has seen for years.

Hugh Canning

BOOKS

Art's alliance with daily life

by Norbert Lynton

Fernand Léger
by Peter de Francia
Yale University Press, £25.00
ISBN 0 300 03067 3
Russian Constructivism
by Christina Lodder
Yale University Press, £30.00
ISBN 0 300 02727 3

"I hate discreet painting," Léger had no time for susceptibilities of the British sort. He directed his art to commonplace and the common man. His prosaically outlined forms and bright colours, his sense of monumentality and a tightly packed pictorial space, hit us frontally and fortissimo like a brass band. As though to belie his name, everything in his art is asserted; no allusion, no atmosphere, no grace (of a sort we would notice). Not much landscape; occasional still lifes that look more like posters than paintings because poster artists imitated him, though it could also work the other way around. Mostly people, the man, woman and girl in the street monumentalized à la machine and also—and here is the paradoxical nub of it—à la Jacques-Louis David.

We have had little time for him. British collections are almost devoid of his work. Born the same year as Picasso, Léger can be called a Cubist by virtue of some early works and associations. Douglas Cooper even embraces him as one of his four "essential" Cubists, as distinct from the "pathetic" fellow-travellers, as we learnt from the Tate's beautiful exhibition earlier this year, and its quaint catalogue. But after the war, and especially after around 1920—Philadelphian's *The City* of 1919 and New York's *Le Grand Déjeuner*, 1921, are Léger's masterpieces—he gets entangled in political-cultural issues, is much less of an avant-garde, more or less late Surrealism passes him by, seems, in short, to avoid the routines and the occasions that would lodge him in the corner of our minds reserved to modern art.

Peter de Francia's book is a corrective and a challenge. He is professor of painting at the Royal College of Art, a serious painter and thus a thinking man. He is deeply versed in art history (he has the books) and in much more. Partly French himself, he knows World War (as well as in the 1920s) that have long provided a griot to an art of modernism to be issued to art lovers as fast food, in succession to Impressionism and Post-Impressionism. We need a man like de Francia to split open those conventions of packaging which art historians find so difficult to do without and which the public cannot question.

His book becomes most interesting at the point where others fade. *Le Grand Déjeuner* is not Léger's "last complete masterpiece" as Clement Greenberg says, but the first of a sequence of great works of a sort the world is always short of: monumental



"Les Trois Musiciens" by Fernand Léger, 1944.

from other sources even then? How could this country boy, finding his way through the labyrinths of old and new in Paris art, and always hoping for a mass audience, produce totally abstract paintings on the eve of the First World War (as well as in the 1920s)? That have long provided a griot to an art of modernism to be issued to art lovers as fast food, in succession to Impressionism and Post-Impressionism. We need a man like de Francia to split open those conventions of packaging which art historians find so difficult to do without and which the public cannot question.

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confirmations of the value of life. Cubism was an art of perplexity, grave or playful according to taste. Surrealism was a shock, tickling like a torch battery or with a kick like a power-point according to how firmly we grasp it. Léger's works are almost embarrassingly direct and affirmative, making little appeal to what we call our finer feelings, those associated with melancholy and nostalgia. In this he is un-western as well as un-British.

He is almost Russian. I treasure the letter quoted by Avril Pyman in her wonderful book on Aleksandr Blok, in which that great poet answers an aspiring artist.

You say "There is a sweet melancholy in poetry". And "Without poetry, life is nothing but misery, simply muck". I answer: I understand you, but this is something I do not want to know. We are here neither to be

melancholic nor to take our ease. Léger too wants an active art, open to the future. His work says that life is good, that mankind is without original sin, that work, home, a day in the country, an evening at the circus are honourable, convivial. Technology is as natural to man as nature; we need not choose between machines and meadows. But we can choose between a negative and a positive view of our world, and there Léger offers us a model.

That attitude and the pictorial strategies it demanded brought Léger close to the Russian modernists, and it is they who responded to him earliest and best. The first of his several lectures on life and art was delivered at the Académie Russe run by Maria Vasileva on the avenue du Maine in May 1913, a gathering place for the young Russians who were soon

to become leaders in the topsy-turvy world of post-Revolutionary Petrograd and Moscow: Altman, Ekster, Udaltsova, Popova and others. It is even possible that Tatlin was there that day. In any case Léger's work and ideas were known in Russia. His analysis of pictorial dynamics and his insistence on a close alliance of art with contemporary daily life find a culmination in that great adventure, Constructive, the climax and, alas, end of Russian modernist aspirations.

Christina Lodder's account of it is more detailed, more exact and exacting, than anything available until now in any language. It is a densely packed compendium of information, quotations and illustrations, the product of indefatigable research, but hard to get through.

She keeps her nose very close to the ground. In the new Russia of the early 1920s, as in Britain now, shortages and the need to placate officialdom made for a stream of statements, debates and reports. Ideals got grubby from endless fingering while practice flattered for lack of material support. Dr Lodder delivers all this in substantial detail, and in some areas the information she provides has been pieced together from a host of little sources where the main one—such as the official archives of the art and design schools of the period—were closed to her. She gives the fullest account of who taught what where and when, and of the rise and fall of the big issues, such as the role of painting and sculpture as forms of research, the demands of design as opposed to applied art, and the call for artists to abandon all studio activities in order to give their art to factory production.

Valuable as this is, it results in a book more about words and institutions than about individuals and actions. Dr Lodder says little about the works she shows; one wonders whether she is interested in them. She has little time for anything controversial, whether it is changes in Soviet political and economic priorities, art and design developments in the West and Constructivism's debt or contributions to them (the Bauhaus, for instance), the Russian populist tradition as a moral pointer towards removing artists from attending to elitist pleasures and problems, or anything else of an outgoing kind that could make her subject part of a wider view.

Because of this, she ends on a dying fall. Constructivism was a failure. Of course it was, if you measure it in terms of some Constructivists' romantic ideas of what they might achieve one day. One could argue that it was the bravest and most profitable of modernist actions and that it survives to this day through its impact on typography and layout, photography and film. But then Dr Lodder sees the Constructivists' great work on posters and on a retreat from the abstraction they had insisted on in their paintings, and even, where photography is concerned, as a surrender to in the face of returning Realism. She takes a very old-fashioned view of abstraction and figurative art as sworn enemies whatever the occasion. Film, in which the Constructivist root principle of seizing upon reality and restructuring it purposefully is realized most perfectly, she leaves aside altogether.

Léger might have helped her towards a better understanding. He, always the committed proletarian artist, did not draw such hard lines. As for film, he saw it as a most marvellous extension of visual art and a corrective to old assumptions. Modernism exchanged the window-painting for the flat painting and at times the relief-painting. De Francia shows how Léger adopted the cinema screen, large and luminous, as another sort of picture base. But then Léger was also a film-maker himself, and some of de Francia's most interesting pages are on his work for and in the cinema. Again, it was the Russians who responded to it most avidly. We shall long use Christina Lodder's book, but it does not add to our sympathy for what lived on as the central issue: whether or not the arts can play a more than marginal role in the modern world.

Norbert Lynton is professor of the history of art at the University of Sussex.

Christopher Thacker

Christopher Thacker is senior lecturer in French at the University of Reading.

BOOKS

A spirited defence

Public Expenditure: its defence and reform
by David Heald
Martin Robertson, £19.50 and £6.95
ISBN 0 85520 418 4 and 419 2

The dilemma facing the broad centre of British economic thinking is very clearly illustrated by this book. It defends publicly financed programmes against some of the wilder attacks from the right and makes sensible proposals for reform. But the critique of the public sector which has developed over the last decade is directed towards some fundamental problems of state provision; moreover, it has been able to draw considerably on academic economics and has been translated into some simple popular political messages. The dilemma for the political centre which David Heald represents is that the intellectual counter-attack is not reducible to simple messages and cannot draw readily on mainstream economics which nevertheless continues to set the agenda for discussion.

Heald's target is both the academic and political right, typified by the publications of the Institute of Economic Affairs, and his subject is public expenditure, though wider interventionist issues are involved. While pitched towards a non-technical readership, it is a scholarly piece of work reminiscent of the longer Fabian publications. Stronger on micro than macro issues: it draws on disciplines like politics, philosophy and management but economics and economists dominate.

There are some sensible criticisms of some of the slobber statements of the right. Heald points out that the ratio of taxes or public expenditure to gross domestic product in Britain is not out of line with other countries; that emphasizing the importance of controlling the money supply implies nothing about the size of public expenditure and in any case in the 1970s the link between the public sector borrowing requirement and money creation was weak; and that the evidence on the alleged superior cost effectiveness of private over public enterprise is quite ambiguous.

On a different level, Heald sees the radical right as fundamentally worried that the onset of democracy has brought voting power in conflict with freedom and efficiency. There is a lengthy discussion of how the right's concentration on negative freedom underlies their emphasis on the exercise of individual choice and the protection of property rights, of the strong coercive government that this still requires and the resulting conflict with their efficiency arguments about the failure of the state. And if some monetarists would never subscribe to any of these positions it is a pity, says Heald, that they have not distanced

themselves more explicitly from the political right.

I doubt whether the academic and political right will feel their arguments are significantly denied by these points. Nor would they disagree much with Heald's quite sensible proposals for reforming public expenditure. He castigates some supporters of public expenditure for being stubbornly opposed to the development of more cost-effective programmes or of ignoring the importance of the monetary sector in macroeconomic management. The effect of the welfare state on equality bears closer scrutiny in view of the findings of people like Le Grand that the poor are often not the chief beneficiaries. Chapters on management and accountability lead to suggestions for less executive secrecy while the public expenditure evaluation system requires a closer integration of volume and cash dimensions, a more comprehensive coverage, a more explicit treatment of tax expenditures and an overall integration with the revenue side.

The basic dilemma is rather that some simple messages which were

associated with state provision and intervention and what Heald calls the Keynesian social democratic state, have been undermined and replacement arguments are complex, blurry and not translatable into simple political messages. Heald's book is an admirable agenda for discussion; it also expounds many points clearly and will be useful reading on public policy courses. But I believe that there are some deep-seated problems which, given the broad brush of the book, Heald can only touch on.

The presence of economies of scale or of contiguity was often seen as conducive to monopoly and therefore less exploitative if run by a public industry. But competitive auction bidding by private firms "for the field" can in theory eliminate monopoly profits; the counter argument raises questions about the flow of information, the degree of competition, the problems of contract renewal. The presence of externalities (spillover effects) was once deemed to provide a case for public intervention; recent literature suggests private agents may have negotiated an efficient solution, that in

education and health external effects may be quite small and that in any case it is not clear how the government can acquire a superior body of information to private agents.

Flow property rights emerge as central to any policy externalities or on income distribution, yet economists have traditionally had little to say on this matter. In some areas like safety, gambling and the dating of perishable commodities, the economic case for regulation is far from clearcut and would have to rely on complex arguments about the problems of measuring commodities and the dissemination of information. Economists are good at identifying inefficiencies arising from subsidies to, for example, housing, food, education even though we do not know who is critical mass of such services is really necessary for a family to participate meaningfully in the market economy.

We continue to lack a well articulated theory of public institutions and attempts so far do not help Heald's case. This economic theorizing about "ownership" has led in the USA to an unambiguously critical evaluation of

public firms by virtue of their alienation of private property rights; that the evidence on the relative cost effectiveness of public and private enterprise in fuel and transport is ambiguous cannot hide the absence of any straightforward economic argument for public ownership in these areas. Non-economists would also want to introduce questions about the distribution and exercise of power - particularly important in analysing who bears the cuts in public expenditure and who more generally suffers the disruptions of recessions.

Yet it is significant that Heald, though explicitly expounding an interdisciplinary approach, draws mainly on philosophy and political theory rather than sociology and in any case finds them useful only at the higher levels of discussion of freedom and equality. His book is a spirited defence but he needs more ammunition.

Robert Millward

Robert Millward is professor of economics at the University of Salford.



Dennis Healey, on his way to deliver his Budget in April 1978.

planning, the unions prefer the market, and usually win. An illustration of Labour's essential dilemma is that while Jim Callaghan and Dennis Healey, in the aftermath of the pay bonanza which followed the 1974 election, which Harold Wilson appeared actively to encourage, were correctly but ineffectually preaching that one man's pay rise was another man's job, their Secretary of State for Employment was actively improving the union's bargaining power by allowing them the closed shop.

Lack of space prevents me from commenting in detail on Whiteley's account of the period from 1976 to 1979. Having read the same evidence, I think his judgment is ultimately wrong, and his rural sideswipe at Treasury. In particular Sir Douglas Wass, much of the Labour's manifesto for the 1983 election he seems to agree that without a policy for incomes there is a house of cards. But it is in his postscript, detailing what the party should do now, that he enters Lewis Carroll territory. Trade protection, wage restraint and industrial investment are his aims. Impeccable. On the long-term planning of trade he is interesting, with views worth exploring. On pay, he has nothing to offer. It is on investment that he ends up feet off the ground. The Labour Party should seek the positive cooperation of

"industrial capital" against "finance capital" in order to promote industrial investment (now he has reinvented the Social Democratic Party), by emphasizing nationalization and in effect dropping Clause 4.

The present Labour Party dropping Clause 4 when Gaiskill could not manage it in 1967? I would remark that if Gaiskill had succeeded, then the major supply-side policies of the last twenty years, the failure of which Whiteley laments, would have had a far better chance of success. Whiteley is acutely aware of what needs to be done. His fundamental error is to imagine that the Labour Party ever was, is, or in the future can be, the vehicle. The perceptive left-wingers realize that in the present state of the social and economic development of Britain the debate to determine the conditions for the modernization of British society and the economy, and to erect a permanent alternative to Thatcherism, cannot be confined to the Labour Party. Whiteley never considers this proposition. As a result, he condemns himself to inhabiting fantasy-land.

S. A. Walkland

S. A. Walkland is professor of politics at the University of Sheffield.

Kinds of equality

Against Equality: readings on economic and social policy
edited by William Letwin
Macmillan, £18.00 and £6.95
ISBN 0 333 35312 9 and 35313 7

The common theme of these essays by philosophers, economists and sociologists who have been influential in the emergence of the New Right, is the folly of making equality a conscious goal of social policy.

The anti-equality case is comprehensively put in a long editorial introduction. It can be summarized in two propositions: (1) Defences of equality often appeal to principles and arguments that have nothing intrinsically to do with equality itself. (2) Equality is a complex notion, and making people equal in one respect frequently means making them unequal in other respects. (3) One must draw a sharp

distinction between two benign principles - equality before the law and equality of opportunity - which when properly interpreted are compatible with a capitalist economy, and various malign principles of equality of outcome which are subversive of such an economy. (4) There is in fact much less inequality of income and wealth in capitalist societies than appears from the statistics that are usually bandied about. (5) Attempts by government to reduce inequality by redistributing resources from rich to poor rarely have the intended effect.

The sixteen remaining papers are (with one exception) reprinted articles that argue for one or more of these propositions. Although the case is often set out with great clarity, the overall effect is somewhat less than compelling. To begin with, people who believe that equality in some form is a worthwhile object of pursuit may find that the targets chosen here are too crude. None of the contributors refers to the best recent research on the concept of equality, notably that of Ronald Dworkin, who interestingly has research begun from the premise that different principles of equality will lead in different directions, and take

the question: which of the several principles of equality best captures our underlying intuitions about what makes equality valuable? A critical analysis of this sort can avoid many of the theoretical arguments against equality.

As far as the empirical arguments are concerned, the book suffers from the fact that too many contributors rely on bald assertion where hard evidence is needed. Let me give an example. Most people are familiar with figures showing that the richest 50 per cent of people in Britain own some 50 per cent of the nation's wealth. It is logically possible, as Letwin suggests, in his introduction, that this concentration should be entirely an artefact of the age cycle. If income rises gradually with age, and people save increasing fractions of their income, everyone might enjoy the same lifetime income and yet that distribution of wealth at any moment might display its present profile. This possibility is cited by several contributors as reason for not taking the wealth statistics too seriously. But the interesting question, obviously, is how much of the observed inequality in wealth can actually be explained. Nobody really answers this question, and nobody

challenges A. B. Atkinson's analysis which reveals that the concentration of wealth within each age-group is nearly as great as that within the population as a whole; so only a small part of existing inequality can be explained by life-cycle factors.

The papers by K. E. Boulding, H. C. Bauer, all display the tendency to remain at a high level of generality instead of looking closely at the facts of inequality. George Polanyi and J. B. Wood attempt to be more empirical, but they look only at ways of adjusting the Inland Revenue's crude statistics which have the effect of making the distribution of wealth in Britain appear more equal, without considering whether other equally necessary adjustments might not have the reverse effect. Among the philosophical papers, J. R. Lucas stands out for his better-than-average sense of why equality might appear an attractive principle. Antony Flew's polemical style tends to obscure the merit of his arguments. Robert Nozick appears to share the editors' belief that John Rawls is committed to material equality. J. S. Coleman and N. Koyzis both make intelligent criticisms of Christ-

opher Jencks's inequality though it is a pity that they were not able to revise their papers in the light of Jencks's own self-criticism in *Who Gets Ahead?*

There are two unsuspected moles in the volume. Charles Frankel and Geoffrey Marshall provide sceptical essays on equality of opportunity and equality before the law, respectively. Each brings out very clearly the inner complexity of the ideal under consideration - for instance, how can we be sure that the facts of social inequality are not limited to these fields. They might even be applicable to the study of historiography, to which Frankel's essay is a contribution, but here he offers no more than to test the importance of "scientific" historians, no model to determine if they are "outliers" - the "statistical noise" of history-writing.

To illustrate the methodological division he posits, Frankel identifies the areas which offer the sharpest contrast. The most important are the choices of subjects (individual events v. collectivities), preferred types of evidence (literary v. statistical), and the tone of controversy (traditionalists are passive toward authority and uncritical, while modernists are more active).

Elton organizes his reply. For Elton, the world is divided into good and bad history-writing. He equates modernism with a bodelfellow with Nozick, and Flew and Hill and leaves no doubt as to who is on the side of the angels. He savours most of Fogel's criticisms of traditional history by saying that "the historians would never build arguments, use evidence, or invoke authority in the ways in

BOOKS

Circling warily

Which Road to the Past? Two views of history
by Robert William Fogel and G. R. Elton
Yale University Press, £9.95
ISBN 0 300 03011 8

Entire branches of science have been erected on the premise that good practitioners do not make good theoreticians. Not so with history. Systematic thinking about history writing was once a flourishing sub-field of philosophy until the philosophers proved, to their own satisfaction, that history could not be written. By default, the task has fallen to professional historians.

Here the practice is for older statesmen to relate their personal experiences and methodological preferences in a musing to the Muse. These didactic exercises always reveal more about their authors than about the discipline itself. For, if truth be told, Clio is a sluttish Muse: willing to cohabit with all and sundry, promiscuous in her borrowings, and indifferent as to who knows it. While other disciplines draw up snowy white mantles of rigorous methodologies, Clio is clad without regard to colour or style in garments with dubious fastenings.

Which Road to the Past? introduces us to the proclivities of Robert Fogel and Geoffrey Elton, two eminent historians who, in different ways, have shaped the current practice of history writing. The book consists of an essay by Fogel on "Scientific History and Traditional History" and a gloss upon it by Elton. The views of both are already well known, but this is the most concise and accessible statement of them. It is also the most moderate. In a brief joint statement, Fogel and Elton emphasize their points of agreement, their belief in peaceful coexistence, and their mutual admiration. This is a departure from the previous proselytizing efforts of both. Throughout one has the sense of two defanged cats circling each other warily.

Fogel's essay begins with a survey of the development of what he calls traditional history. This is enshrined in concern over discrete and non-repeatable events and in the use of "testimony" as evidence. Although traditional historians have borrowed theories and techniques from the social sciences, they have avoided using statistics and social scientific modelling in accumulating and evaluating evidence. Thus traditional historians form a very large group which includes narrative and analytic historians, progressive and Marxist, and political and social historians among others. On their side stand Elton and Stone, Trevelyan and Hill, Namier and Bradshaw: the names are arrayed like the young clonians of Fogel.

The latter are defined by belief that "models will be explicit, with all the relevant assumptions clearly stated, and formulated in such a manner as to be subject to rigorous empirical verification." The achievements of "scientific" historians are observable in demographic and economic history, though they are not limited to these fields. They might even be applicable to the study of historiography, to which Fogel's essay is a contribution, but here he offers no more than to test the importance of "scientific" historians, no model to determine if they are "outliers" - the "statistical noise" of history-writing.

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which Fogel claims they are bound to do by their methods. Indeed he finds "scientific" historians methodologically imprisoned, walled out from most subjects that depend upon conscious individual behaviour and most periods before the eighteenth century. Walled out, that is, from Elton's own domain.

The hallmark of Elton's method is the rigorous scrutiny of sources. He cannot help but be offended by the "scientific" historians have adopted in which thousands of observations are better than hundreds, hundreds better than scores, and scores little more than impressions. For Elton it is understanding the discrete pieces of evidence that counts: "the historian's primary task will always consist in discovering the circumstances in which his evidence came to be born". Historical understanding can only be achieved by the patient evaluation and collation of the artefacts of the past in all their varied forms. New materials,

methods, and insights will always advance historical knowledge. Perforce, history is a "process of growing under standing and therefore remains forever open to revision".

The authors end as they began, attempting to minimize disagreement and to moderate a debate which has, at times, taken the form of "cultural warfare". Both have stood their own ground while tacitly acknowledging the other's turf. The reader will find the different approaches and methods clear enough. Confronted with the medieval conundrum, "How many angels can dance on the head of a pin?" Geoffrey Elton would study the provenance of angelic dancecards and Robert Fogel would measure pin-heads.

Mark Kishlansky

Mark Kishlansky is associate professor of English history at the University of Chicago.

After the event

The History of Ideas
edited by Preston King
Croom Helm, £16.95 and £8.95
ISBN 0 7099 1526 8 and 1527 6

A great weariness of the soul must descend on anyone who reads their way through this volume.

Preston King has chosen to put in it five essays (or parts of longer works) by important writers on the philosophy of history or the methodology of the history of ideas, and a reply to each of them, including two from the pen of the editor himself. While the replies direct the reader's attention to some of the salient issues, it should be said that they are far from the quality of the major essays - only in one case, Leo Strauss's criticism of R. G. Collingwood, does one have the sense of an interesting clash of intelligences.

So the book will mainly be used as an anthology of essays by the five heroes - Michael Oakeshott, Collingwood, A. O. Lovejoy, Strauss and Quentin Skinner. The essays are not always the best expressions of what John Locke thought he was about in 1680-81, and it is also clear that it falls as a consequence to explain many interesting features of the *Two Treatises*, and that Macpherson is in many ways a rather bad historian. But it is not clear that it is not in some way an illuminating description of Locke's enterprise, nor that a non-intentional account of a text cannot in principle be "historical".

The point of ideas and theories is often rather vaguely grasped at the time, even by the theorists. An example which many of us have actually lived through is the revolt against the notion of a traditional social science, and in a way against "modernism" in general. In the 1960s, many people who were students then were interested in ways of thinking about the political world which in retrospect make sense as a repudiation of "modern" and a return to a more social science, but this was something which I for one saw only dimly at the time. An understanding (at least on my part) of what we were doing has come subsequently - but it seems to be a genuine understanding. It is on this familiar fact about intellectual activity that the *Zeligists* repose, and though he might be deluded, it is a fact which will continually puzzle and disrupt the history of ideas.

The piece by Oakeshott, for example, which King has chosen to include is explicitly a plea for narrowness: it is the well-known essay "The Activity of Being an Historian" in which Oakeshott set out his distinction between "history" and "practice". By the latter term he meant a concern with understanding the nature of present activities and (in principle) making a moral assessment of them. He then defined legitimate "historical" study as excluding all "practical" matters, so that we are not allowed, as true historians, to inquire into the origins of any features of the modern world, for to do so is to lapse into a practical mode of discourse. Even if this distinction

tion were a valid one, it would still not follow that the history in which we ought to be interested was not practical - indeed, it might follow (though I do not think it does) that we had a moral duty not to be historians of the Oakeshottian type.

And yet, at least Oakeshott made the central dilemma clear. The fact that different kinds of understanding are possible of every text is conceded by almost all the writers in this book; the arguments between them are characteristically over what constitutes a truly "historical" understanding. It is for this reason that the inclusion of pieces about the philosophy of history in general, by Oakeshott and Collingwood, is consistent with the objectives of the anthology, for one's position on the methodology of the history of ideas will largely be determined by one's views on the nature of historical explanation.

But what is a "non-historical" understanding of an historical text? Someone (let us call him Professor Macpherson) might say in the now familiar example that Locke was writing a defence of capitalist accumulation. It is clear (as Skinner has emphasized) that this is not a plausible description of what John Locke thought he was about in 1680-81, and it is also clear that it falls as a consequence to explain many interesting features of the *Two Treatises*, and that Macpherson is in many ways a rather bad historian. But it is not clear that it is not in some way an illuminating description of Locke's enterprise, nor that a non-intentional account of a text cannot in principle be "historical".

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Richard Tuck

Richard Tuck is a fellow of Jesus College, Cambridge.

For the records

A Guide to English Historical Records by Alan MacFarlane
Cambridge University Press, £9.95
ISBN 0 521 25225 3

Three years ago Dr Alan MacFarlane and his colleagues published by microfilm and his colleagues published by microfiche the voluminous transcripts they had made of all the records of the Essex bearing office in the history of the Essex village, Elstow, Colchester, for the period 1500-1750. Transcripts, which had been the basis of important published research. These were accompanied by

three introductory pamphlets. The *Guide to English Historical Records* is largely a reprint of these volumes, omitting the editorial comment on the microfiches and adding two preliminary chapters which justify the method employed and give guidance on further reading. Its aim is to provide a short, cheap introduction which explains the overall nature of English documents.

The aim is admirable, the achievement flawed. The very specific geographical context of the chapters, confined to classes of document relevant to the history of East of England, which gives rise to doubts - the author makes a good case for this limitation. More dubious is the attempt to generalize about the records from a six-hundred year time span, from 1200 to 1833, without sufficient guidance to



Mrs Anne Hogarth in deep mourning for her husband, painted by her son William in 1735. The picture is reproduced from Lou Taylor's *Mourning Dress: a costume and social history* (Allen & Unwin, £15.00).

Say no more

By Word of Mouth: "elite" oral history
by Anthony Seldon and Joanna Pappworth
Methuen, £11.95 and £5.95
ISBN 0 416 33020 7 and 36740 2

In 1962 Harold Nicolson wrote to his wife:

A man came to see me who is writing a book about Tom Mosley. He brought out a recording machine with him on which to record my replies to his questions. I didn't care for that very much, and then Kenneth Rose appeared and scoffed at the machinery turning and churning on the floor. The man detected Kenneth's irony, and packed up and left. "Do you often submit yourself to such humiliating ordeals?" asked Kenneth. "Very frequently," I replied.

This passage fails to find a place in the somewhat earnest primer on British elite oral history painstakingly assembled by Anthony Seldon and Joanna Pappworth. But it goes far to explain why members of the British establishment, in some contrast to their less class-conscious American counterparts, rarely reveal startling information to those historians and biographers who do not themselves belong to the elite.

It is not that many members of the British elite do not enjoy breaking confidences and being outrageously indiscreet, for they are almost as human as people in general. But, as servants of what was once a country of some importance, they feel obliged to uphold certain minimum standards. In short, they simply do not let their hair down in front of strangers with a tape-recorder running. But as they are no less vain than the rest of us, they usually consent to go through the motions of being interviewed by

almost anyone who sends them a tolerably polite letter. (The authors record that most historians they have consulted obtain an acceptance rate of at least 90 per cent.) Inevitably, however, the resulting interviews are either misleading or bland or both.

The present book, as well as providing much useful information about the location of extant collections of oral material, sets out to give interviewers advice on the techniques appropriate to getting the best out of these brief encounters with elite strangers. Much of the advice, however, is based on the wrong-headed premise that the exercise is of considerable potential significance. Hence there is a danger that inexperienced historians will be encouraged to waste much time when, in the words of Professor Geoffrey Warner, they could be "more productively employed on seeking out further published evidence". Those thus tempted should read Dr Seldon's earlier book, *Churchill's Indian Summer 1951-1955*. His researches were bolstered by no fewer than 225 such interviews with survivors. But the resulting amount of enlightenment was totally incommensurate with the effort involved.

Of course if the historian himself actually belongs to the elite, he can expect to glean much information of current and historical interest from oral testimony. But this is no doubt best sought not in formal interviews but in the normal social round. Here the model is the unscrupulous Cecil King, who, though not a professional historian, intentionally set out during the Wilson-Heath era to record in diaries intended for early publication the many confidences which politicians and mandarins innocently entrusted to him. Naturally Mr King's signal service to Clio is ignored in the present book. But then Dr Seldon appears to have a perverse preference for testimony that is hopelessly sanitized.

David Carlton

Dr Carlton is senior lecturer in international history at the Open University.

the reader concerning the changes in the nature and significance of the various classes over that very long period. Dr McFarlane dismisses this problem too briefly and there has been too little revision of the original text to take account of the inclusion of another three hundred years within its scope.

Some of the flaws are, perhaps, inherent in the ambitious nature of the project and they are most apparent in the sections on "state records" where the task of summarizing was most acute, but a certain amount of guidance on changes in the nature of sources through the period could have been provided with very little increase in the size of the volume. There are a few anomalies, too, in text and footnotes. Why, for instance, is reference made to the availability of printed

calendars of some classes of record and not to others - to the calendars of state papers, for instance, and not to the various series of calendars of the chancery rolls described?

These lapses are unfortunate, for the attempt to provide a survey of the records available for the study of a local community over an extended period and to emphasize the connections with the institutions that produced them was well worth making and there is much useful and interesting information in the book. The beginner, however, would need a considerable amount of guidance in order to make effective use of it.

Roger Virgoe

Roger Virgoe is senior lecturer in history at the University of East Anglia.

David Miller

David Miller is a fellow of Nuffield College, Oxford.

BOOKS

Meditation heats ye brain

Certain Philosophical Questions:
Newton's Trinity Notebook
by J. E. McGuire and Martin Tammy
Cambridge University Press, £45.00
ISBN 0 521 23164 7

When I came across this notebook of Newton's in the Cambridge University Library and first brought it to the attention of historians in a short article outlining its interest (1949), I could not have foreseen that one day the same notebook would form the basis for a pompous volume by two American scholars.

The original is rather scruffy and very personal; the twenty year old Newton never imagined posterity poring over his every scribble. While it is very fortunate that we have so much information about the shaping of a genius, information of endless fascination, and while it is true that here and there echoes of these youthful scribbles appear in Newton's mature writings, it is perhaps a pedantic folly to weight each phrase in the subtle scales of scholarship as though it distilled a lifetime of learning. Sixty-seven pages only of the present book contain Newton's philosophical musings, and twenty-four pages of optical notes are printed from another notebook; the remaining four-fifths of the volume have been written by the editors.

The disproportion is gross. The introductory matter is long-winded, the rendering of the English original into contemporary form needless. Strongly to be criticized also is the publication of a sentimental nineteenth-century fancy as "A portrait of the young Newton while at Trinity College, Cambridge." Cambridge's first picture of Newton was painted by Godfrey Kneller in 1689, when he was already famous.

The notebook is not to be found in Trinity College, Cambridge; nor does it have any right to be. It is not unique; there is another (in New York) containing material of an earlier date, another containing mathematical notes, a fourth containing chemical experiments, and so on, besides many thousand loose handwritten sheets. The *Certain Questions* does contain, however, reflections of Newton's early reading and records of his first observations and experiments. He tried the effect upon vision of pressing upon his own eyeball; he explored the design of a sand-clock and magnetic experiments: "Whether a loadstone will turn around a red hot iron faster than a wind-mill-sail." Later (probably) he copied out tables of the motions of the comets of 1685 and 1618 and compiled at length his own observations of the comet of 1664-65. Hardly surprisingly, as he was by now deep in contemporary mathematics, he mastered the techniques of astronomical calculation, with the aid of Thomas Streete's *Astronomia Carolina* and other primers.

With closest relevance to his own future accomplishments, in notes under the heading "Of colour," Newton describes optical experiments with a prism, concluding both that "slowly moved rays are refracted more than swift ones" and that "rays which make blue are refracted more than rays which make red." At a somewhat later date Newton was able to make experiments with a pair of prisms (only proposed in *Certain Questions*) and a lens, and then observed "Newton's rings".

However, the bulk of the notebook and of *Certain Questions* within it is more discursive and more indebted to reading. When the young Newton asks: "Whether the sun moves ye vortex about, (as Des-Cartes will) by his beams, pag. 54 Principia Philosophiae 3ae", the source of his question is recorded; and the editors rightly emphasize the support of Descartes' report. Newton, in philosophy as in mathematics, is profoundly as well as often negative, as positive. The *Certain Questions* also contains some of the few direct references to Galileo's writings in Newton's papers. The re-

marks upon other topics are less well documented; in the long section "Of Atoms" Newton mentions Henry More's *immortality of the Soul* (1659) but none of the other authors whom he had probably read.

Although flashes of sharp perception and prescience of the future scientist occur in these passages, they more often remind us that the young Newton was a student like others. The editors justly observe that *Certain Questions* displays "an intellect concerned with matters of practical interest and bent on mastering the techniques of effective knowledge." But equally clear is an interest in metaphysics and epistemology. "The latter aspect of Newton's early development has evidently held more interest for them than the former, and has been subjected to a painfully long and learned analysis."

It is extremely useful to have a printed version of a text that must be pondered by all students of Newton's intellectual history, but it is a pity that some features of this edition will cause the knowledgeable to shudder. In my view the editors would have done well to remember that a text is always more important than its editor's comments, however scholarly; they might have reflected, too, on Newton's own advice: "Meditation heats ye brain in some to distraction in others to an akeing and dizziness."

Rupert Hall

Rupert Hall was formerly professor of the history of science and technology at Imperial College, London.

Numerical analysis

Elementary Numerical Methods

by M. J. Jameson
Pitman, £3.95
ISBN 0 273 01835 3

Introduction to Numerical Computation in Pascal

by P. M. Dew and K. R. James
Macmillan, £20.00 and £9.95
ISBN 0 333 32896 5 and 32897 3

Programming numerical methods is an excellent way of obtaining insight into their performance on real problems. Although a number of books link the development of numerical algorithms with the provision of software implementing such schemes, in general the programs are coded in Fortran. However, because of the increasing popularity of the language, particularly at undergraduate level, books are now being produced containing Pascal codes.

Jameson's elementary text contains chapters on numerical methods in general, the summation of power series, the solution of nonlinear equations, polynomials and polynomial equations, interpolation and differentiation, and the solution of simultaneous linear equations. For each topic, the emphasis is on the development of algorithms rather than rigorous mathematical arguments. Algorithms are introduced in a hybrid of English and Pascal, the non-Pascal components representing sub-problems which need to be refined at a later stage.

Complete programs are listed at the end of each chapter, together with output indicating the performance of the code when used to solve various problems. Although small transcription errors have crept into the codes, the programs are well-commented and, with one or two exceptions, reasonably well laid out. Each chapter concludes with a number of exercises.

As a low-level introduction to practical analysis, this book has much to commend it. Dew and James have embarked on a much more ambitious project. Their book, divided into two sections, discusses the development of a numerical algorithm, written in Pascal. The first section analyses the basic mathematical and computing tools required in later chapters. Topics covered are programming in Pascal (a brief resume of the essential features of the language), the principles of mathematical software (with emphasis on the production of robust, well-documented code), and basic mathematical and applications. An exposition on machine arithmetic is also included.

The second section is concerned with the development of numerical

software for the solution of nonlinear equations in one variable (using Newton's method and interval methods) and systems of linear equations. Fixed-point rules and adaptive techniques for numerical integration are also considered in detail. For each topic, the mathematical background is treated rigorously and in depth; attention is paid to those problems which would fool a simple-minded algorithm. Throughout the book, program listings (and sample output) are given alongside the section of text describing them. The listings are direct reproductions of the original codes and hence are likely to be bug-free. However, as the printer used does not distinguish between the letter l and the digit 1, at least two of the programs would be extremely difficult, if not impossible, for the novice to understand. Exercises (with solutions) are given at the end of each chapter.

Dew and James acknowledge that "standard" Pascal does not support software libraries. Moreover, because there are often differences between Pascal compilers, changes to the syntax of the listed library routines may have to be made before they can be executed on a particular machine. (The fact that "mathlib" makes use of a Fortran routine in order to compute a residual vector in double precision arithmetic further compounds the problem.) "Mathlib" is therefore not very portable, although versions are available on some mainframe machines and on the Apple II micro-computer.

As a textbook on certain topics in numerical analysis, Dew and James' book is extremely good, even though it does not cover certain important subjects such as approximation and ordinary differential equations. As an introduction to the development of robust, well-documented, numerical software, I can highly recommend it.

Both books assume that readers are reasonably competent Pascal programmers, many of the more advanced features of the language being used. It is debatable, then, whether the programmer whose first language is other than Pascal (or a related language) would gain much benefit from those sections of the books directly connected with code generation.

Chris Phillips

Chris Phillips is lecturer in computer studies at the University of Hull.

Genetic counsel

Human Genetics

by Daniel L. Hartl
Harper & Row, £10.50
ISBN 0 06 042677 2

Until relatively recently far less was known about the genetics of man than about any other organism. During the past 20 years, however, largely as a result of various technological innovations, it has become possible to study human chromosomes in detail, establish the biochemical basis of many genetic diseases, and very recently even to analyse the fine structure of human genes themselves.

At the same time there have been practical developments in the prevention of genetic disease through counselling and prenatal diagnosis. As some of these changes have occurred rapidly, the subject presents a considerable challenge to teachers and to writers of textbooks. Hartl's book, however, has many admirable features, not least of which is its emphasis on molecular biology. As the author remarks in his preface, "many of the more recent advances in our knowledge of human genetics have been made using human tissues, or in man himself, and his excitement about these discoveries permeates the entire text."

Text of the book's sixteen chapters deal with well-established knowledge: chromosome behaviour, cell division, chromosome abnormalities, Mendelian inheritance, and population and quantitative genetics. The remaining six chapters are devoted to such novel fields as molecular genetics, genetic engineering, and recombinant DNA technology. As developments in molecular biology are very rapid, this part of the book is remarkably up-to-date. For example, there are interesting discussions of split genes (introns), overlapping genes, movable genes (transposons), pseudogenes (DNA sequences which resemble functional genes but are not active), and on-



Marble relief of Mithras sacrificing the bull, enclosed in a zodiac circle. Taken from London: *city of the Romans* by Ralph Merrifield, published by Batsford at £14.95.

genes but are not active), and oncogenes (cancer genes). However, the explosion of research into human oncogenes during the past year or so often have to do with the book's content.

Much of the practical value of human genetics lies in disease prevention and here Hartl is not so successful. The discussion of genetic counselling is very brief and is defined as "advising patients of the genetic risks faced by them or their relatives". Although this is one aspect of genetic counselling, there are certainly many others. Parents generally want to know about the prognosis and whether or not there is any effective treatment. Counsellors often have to alleviate feelings of guilt and recrimination which frequently accompany the birth of a child with a serious genetic disorder or congenital malformation. They also have to explore a couple's feelings and attitudes towards a particular disease - much more difficult and demanding tasks than merely presenting genetic risks.

Hartl also dismisses prenatal diagnosis in only three pages. Yet this must surely be the single most important development in the prevention of genetic disease in recent years, completely revolutionizing the practice of genetic counselling.

Each chapter concludes with a brief and helpful summary, a list of "words to know", a number of problems (answers provided) and several well-chosen references for further reading. There is an excellent glossary and a very full index.

This highly readable and well-organized text will be helpful to teachers, most useful to students, and transmit to both some of the excitement of recent achievements in human genetics.

Alan Emery

Alan Emery is professor of human genetics at the University of Edinburgh Medical School.

Dynamic bilayer

The Living Membranes

by R. N. Houslay
Cambridge University Press,
£12.50 and £4.95
ISBN 0 521 23747 5 and 28202 0

Every cell is encapsulated by a membrane which provides a barrier between the external environment and the cell's contents. Far from being inert structures, however, membranes actively allow the selective transport of material into and out of the cell and also provide the machinery for inter-cell communication and recognition.

In his preface, Professor Robert Houslay suggests that we treat his book as an "essay" and a "treasure". Indeed, it is both. The reader is given a picture of how lively these remarkable structures (membranes) are at a molecular level. Using a clear and approach-

superb overall description of the properties of membranes and their constituent molecules. Clear diagrams and a well-organized text help make this an enjoyable account which novices and experts alike should find eminently readable.

It is unfortunate, however, that the protein component of the membrane's bilayer is not discussed to the same depth or with the same clarity as its lipid components. Even though the detailed molecular structures of very few membrane proteins are known, a wide spectrum of "classes" of membrane protein have been identified, differing in the degree to which they are integrated or associated with the bilayer.

The rest of the book does not live up to this generally promising start. Indeed, it would almost seem that the author had achieved his aim in these first two chapters. His text then becomes pitched at haphazard levels, detailed descriptions often being interspersed with rather vague statements. The three-dimensional models, which had worked so well for individual molecules earlier on, are now so detailed that the point of many diagrams is obscured and in a number of cases the figure is inconprehensible.

Chapter three, on the extremely important interactions between lipids and proteins in the membrane, is confusing and contradictory. Crucially, an incorrect assertion is made that the lipids surrounding embedded proteins are tightly bound to the protein and do not exchange with other bilayer lipids.

Two chapters then describe the use of membranes to harvest energy for the cell's use. Though interesting and readable, again these suffer from a curious mix of oversimplification and a lack of background information, even becoming anecdotal at times. Similarly, chapters seven and eight deal with transport processes in a competent, though traditional, fashion.

Although tremendous advances have been made in our knowledge of the synthesis of both membrane and secreted proteins during the past five years, these have not been taken into account in the relevant sections of chapters seven and ten. Similarly, a section on hormone action is out of date, much of it being based on a cited review written ten years ago. For the general reader, then, the book would certainly provide a "false" feel for its subject. However, more recent editions of several well-known textbooks cover membranes in comparable depth and are more up-to-date.

M. D. Houslay

M. D. Houslay is reader in biochemistry at the University of Manchester Institute of Science and Technology.

A workbook to accompany Stuart Warren's *Organic Synthesis: the discovery approach* (for review see *THEES*, April 29th, 1983) has been published by Wiley. The workbook contains further examples, problems, and solutions.

BOOKS

Vibrating structures

Theory of Vibration with Applications
(second edition)
by William T. Thomson
Allen & Unwin, £9.95
ISBN 0 04 620012 6

Structural Vibration Analysis:
modelling, analysis and damping of
vibrating structures
by C. F. Beards
Ellis Horwood, Wiley,
£17.50 and £7.90
ISBN 0 85312 325 X and 579 1

Fundamentals of Mechanical Vibrations
by Matthew Hussey
Macmillan Press, £20.00 and £10.00
ISBN 0 333 32436 6 and 32437 4

Probabilistic Methods in the
Theory of Structures
by Isaac Elishakoff
Wiley, £42.70
ISBN 0 471 87572 4

Pervading engineering as it does, mechanical vibration has considerable practical importance: the products of all branches of engineering are prone to vibration problems.

As these problems are usually dealt with as they arise by engineers who are not normally vibration specialists, the education of all engineers must include some instruction in basic vibration theory. However, as some practical problems call for a much deeper understanding of the subject, undergraduate courses in engineering must also provide for the teaching of more advanced theory, while the needs of practising engineers must also be taken into account. Clearly there are many ways in which mechanical vibration can be presented, and this variety is well illustrated by these four books.

Professor Thomson's book, aimed at the advanced level, covers all (and a little more) that is likely to be found in any undergraduate course. It is, however, of the nature of vibration - though most subjects are not like this - that an elementary treatment of basic matters offers the best possible approach to more advanced material, and the book can be recommended to those who initially seek only a basis to understanding but hope in due course to develop a deeper interest in the subject. The book has many virtues, and these have enabled it to survive through a number of editions, each involving substantial changes, since it first appeared under a slightly different title in 1965.

The book is conceived as a whole, with each chapter playing a logical part in the development of the subject, and a curious way that there is no obvious discontinuity between the basic and advanced parts of the subject. Applications are kept in view, even if they cannot all be demonstrated separately. The continual rewriting (there are considerable differences between the second edition of 1981 and the present edition), besides enabling the author to refine the clarity of his exposition; also enables the text to reflect the changing availability of computing techniques and facilities.

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Possible solutions

Linear and Nonlinear Differential Equations

by I. D. Huntley and R. M. Johnson
Ellis Horwood, Wiley,
£18.50 and £7.95
ISBN 0 85312 441 8 and 583 X

Twenty years ago the study of ordinary differential equations in undergraduate courses was almost entirely confined to the explicit solution of some simple equations and perhaps the proof of existence and uniqueness results by using functional analysis. Various influences have led to changes in this state of affairs.

At the research level considerable progress has been made in the understanding of nonlinear equations, and of both the linear and nonlinear aspects of the problem. In the power of computers and advances in applied mathematics, in mathematical education

Other chapters cover as much as the non-specialist will need to know about nonlinear mechanics and random vibration.

Dr Beards' book, one-third the size of Thomson's, is more modest in its coverage, dealing only with the core of the subject - the motions of one or more masses or of simple continuous bodies. Almost all practical vibration problems are in fact concerned with structures of one sort or another, so the title is more an intimation of emphasis than content. Indeed, the preface confirms this, the author making clear that theory and analysis must be the basis for guidance on the proper choice of structural parameters to achieve desired performance.

However, in such a short book, intended to cater for practising engineers, designers and undergraduates, the treatment of topics is bound to be limited; there is a final chapter on sources of damping which contains some specific thinking on the suppression of vibration. Though basic, the text will be best approached by readers who already have some acquaintance with the subject.

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age. Much of his material is common to Thomson and Beards but although the book is again pitched at the basic level - the fundamental theory is of course much the same, whether it is viewed by an engineer or a physicist - the author's background carries with it a different interest in applications.

What emerges therefore is a very different sort of book, the chapters on physiological effects of vibration, a special interest of the author, and on piezoelectricity being particularly stimulating. In view of the importance of stress-generated voltages in the measurement of vibration, this latter material will be most welcome. There is also a short excursion into nonlinear vibration, and a very brief account of random vibration.

Professor Elishakoff's book is not strictly speaking a book on vibration, although it earns its inclusion in the present batch by its strong interest in the important subject of random vibration - which places it firmly at the specialist level. While much of vibration theory is quite rightly concerned with the effect on components of periodically-varying forces, there are many circumstances in practice, as for example in high-speed flight or other more mundane applications involving fluid flow - where irregular vibratory motion results from randomly varying forces.

The theory of random vibration is so dependent on probabilistic concepts that a book on random vibration, if it attempts to provide an adequate account of probability theory, can easily become unbalanced. By including in his book the effects of random static forces and random buckling, Professor Elishakoff is able to provide an adequate account of probability and achieve a well-balanced book. And far from distracting those principally interested in random vibration these other matters enable it to be seen more clearly in the fuller context.

Moreover, the book's virtues extend far beyond its balance and coverage. The author writes with the evident intention of being understood, and does not grudge the space needed for fuller explanation. Although the book had its origin in a postgraduate lecture course, it shows evidence of a great deal of hard work since then. The author is particularly to be congratulated on his avoidance of mathematical excess.

J. D. Robson

J. D. Robson was formerly professor of mechanical engineering at the University of Glasgow.

Resisting blight

Plant Surfaces

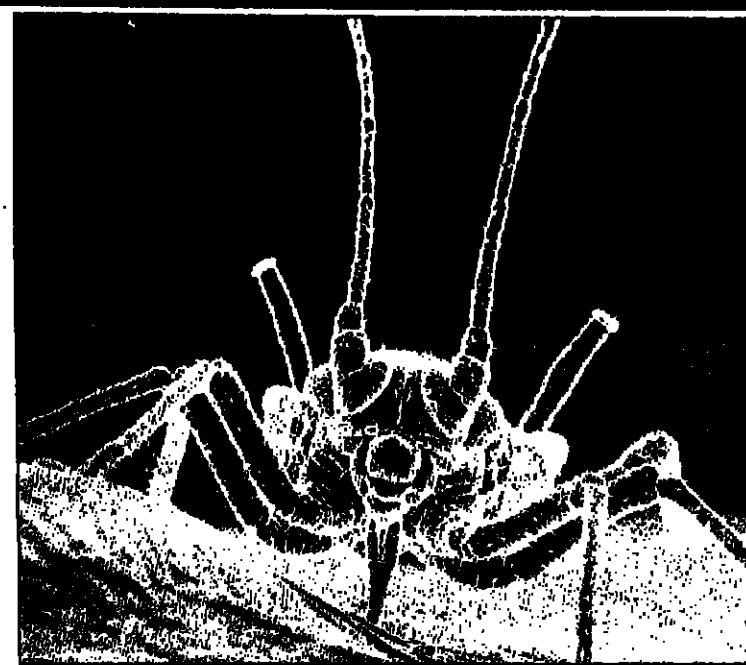
by B. E. Juniper and C. E. Jeffree
Edward Arnold, £5.25
ISBN 0 7131 2856 9

The most striking feature about this slim volume, which brings together much interesting and diverse information concerning plant surfaces, is the way in which so many aspects of the general biology of plants can be related to phenomena associated with their surfaces. It should therefore provide undergraduates with a refreshingly different approach to branches of botany as varied as morphology, physiology and microbiology.

The book's senior author, Dr Juniper, is co-author of *The Cuticles of Plants* (Edward Arnold, 1970), which was mainly intended for research workers and final-year undergraduates. The new book, which summarizes work over a much broader area and covers all aspects of plant surfaces both above and below ground, is clearly intended for first-year or second-year undergraduates, as it lacks the depth and supporting literature necessary for more advanced study.

The book opens with a useful summary of modern techniques for examination of plant surfaces including scanning electron and transmission electron microscopy - the many excellent micrographs being used throughout the book to illustrate the different morphological features associated with the surfaces of leaves, roots and seeds.

Surfaces of certain plants consist of different layers which bear a variety of structures serving a multitude of functions - both their chemical and physical properties playing essential roles in defence against such diverse hazards as desiccation, damage by light and frost, insect and fungal attack, and pollutants. Properties of the surfaces



Scanning electron micrograph of an aphid on a leaf surface. Taken from *Viruses and the Environment* by J. I. Cooper and F. O. MacCallum, published by Chapman & Hall at £15.00 and £7.50.

of reproductive structures (such as pollen, stigma and seed) clearly make important contributions to fertilization and dispersal. The wide variety of substances associated with plant surfaces are often commercially important - as cotton fibres, cork, resins (such as cannabis, landanum), gums (such as frankincense and myrrh) and carboxylic acids, for example. And recognition phenomena associated with the cut surfaces of plants help to trigger tissue differentiation without which grafts cannot "take".

Surfaces of certain plants can also assist in nutrition by the trapping and digestion of insects. Foliar and root surfaces act as habitats for fungi, bacteria and algae as well as insects - some, such as the mycorrhizal fungi and nodule bacteria, forming the specialized associations with roots essential for normal plant development.

J. P. Blakeman

J. P. Blakeman is professor of mycology and plant pathology at the Queen's University of Belfast.

Although this broad coverage often makes for some fascinating reading, the authors' expertise clearly does not extend across the entire range of topics. Certain chapters might therefore have benefited from review by experts in the appropriate fields. The index also seems to be far from complete.

Despite these criticisms, I can recommend the book to botany undergraduates and their teachers who wish to broaden their outlook on plant biology and to be exposed to a quite different approach to that found in more conventional textbooks.

J. P. Blakeman

J. P. Blakeman is professor of mycology and plant pathology at the Queen's University of Belfast.

justification; proofs are often replaced by the fact that different methods give rise to the same answer. The book gives a plausible account of the Poincaré, Lindstedt, multiple timescale, averaging and harmonic linearization methods.

In the chapters on the phase plane isoclines, Liénard's method, stability and the linearization theorem are discussed, although the Poincaré-Bendixon theorem is not. Such geometric methods are simple to teach and give tremendous insight into the behaviour of solutions of nonlinear equations. There is no reason why today's undergraduates should not acquire as firm an understanding of the possible behaviours of solutions to second-order autonomous ordinary differential equations as they have of roots of cubic polynomials.

Kenneth Brown

Kenneth Brown is senior lecturer in mathematics at the Heriot-Watt University, Edinburgh.

Avian partners

The Arctic Skua: a study of the ecology and evolution of a seabird
by Peter O'Donald
Cambridge University Press, £25.00
ISBN 0 521 23581 2

Peter O'Donald spent nine summers on Fair Isle studying the population biology of the Arctic Skua during

